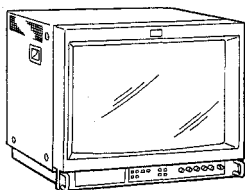


PVM-20M7MDE

SERVICE MANUAL

AEP Model

Chassis No. SCC-J55A-A



TRINITRON

SPECIFICATIONS

Video signal

Color system	PAL (Display system: 625/100/2:1)
System ^{a)}	625/50/2:1 (Display system: 625/100/2:1)
	625/50/1:1 (Display system: 625/50/1:1)

a) System specifications of each system are explained on page 31.

Resolution	625/50/2:1: 550 TV lines
	625/50/1:1: 800 TV lines

Aperture correction	0 dB to 6 dB
---------------------	--------------

Frequency response	625/50/2:1: 6.8 MHz (-3dB)
	625/50/1:1: 20.0 MHz (-3dB)

Synchronization	AFC time constant
	1.0 msec. (FAST),
	2.0msec. (SLOW)

Picture performance

Normal scan	7 % over scan of CRT effective screen area
Under scan	5 % underscan of CRT effective screen area
H. linearity	Less than 5.0 % (typical)
V. linearity	Less than 5.0 % (typical)
Convergence	Central area: 0.5 mm (typical)
	Peripheral area: 0.6 mm (typical)
Raster size stability	H: 0.5 %, V: 0.5 %
High voltage regulation	0.5 %

CRT

CRT type	HR Trinitron
	Aperture grill (AG) pitch: 0.3 mm
	EBU standard phosphor
Color temperature	6500 K/5600 K/USER 1/USER 2

— Continued on next page —

TRINITRON® COLOR VIDEO MONITOR
SONY®

PVM-20M7MDE

Inputs

LINE A

VIDEO IN BNC connector (x1), 1Vp-p +3 dB, -6 dB, sync negative

AUDIO IN Phono jack (x1), -5 dBu^{b)}, more than 47 kilo-ohms

LINE B

Y/C IN 4-pin mini-DIN(x1)
See the pin assignment on the next page.

AUDIO IN Phono jack (x1), -5 dBu^{b)}, more than 47 kilo-ohms

RGB/COMPONENT A

R/G/B channels

BNC connector (x3)
0.7 Vp-p +3 dB, -6 dB
Sync on green: 0.3 Vp-p, negative

R-Y, B-Y channels

BNC connector (x2)
0.7 Vp-p +3 dB, -6 dB

Y channel BNC connector (x1)
1.0 Vp-p +3 dB, -6 dB (standard color bar signal of 75 % chrominance)

AUDIO IN Phono jack (x1), -5 dBu^{b)}, more than 47 kilo-ohms

EXT SYNC BNC connector (x1)
Composite sync 4 Vp-p ±6 dB, sync negative

RGB/COMPONENT B

R/G/B channels

BNC connector (x3)
0.7 Vp-p +3 dB, -6 dB
Sync on green: 0.3 Vp-p, negative

R-Y, B-Y channels

BNC connector (x2)
0.7 Vp-p +3 dB, -6 dB

Y channel BNC connector (x1)
1.0 Vp-p +3 dB, -6 dB (standard color bar signal of 75 % chrominance)

AUDIO IN Phono jack (x1), -5 dBu^{b)}, more than 47 kilo-ohms

EXT SYNC BNC connector (x1)
Composite sync 4 Vp-p ±6 dB, sync negative

RS-232C

9-pin D-sub (x1)

See the pin assignment on page 31.

b) 0 dBu = 0.775 V_{r.m.s.}

Outputs

LINE A

VIDEO OUT

BNC connector (x1), loop-through, automatic 75 ohms termination

AUDIO OUT

Phono jack (x1), loop-through

LINE B

Y/C OUT 4-pin mini-DIN (x1), loop-through, automatic 75 ohms termination

AUDIO OUT

Phono jack (x1), loop-through

RGB/COMPONENT A

R/R-Y/ G/Y B/B-Y OUT

BNC connector (x3), loop-through, automatic 75 ohms termination

AUDIO OUT

Phono jack (x1), loop-through

EXT SYNC

BNC connector (x1), loop-through, automatic 75 ohms termination

Speaker output

Output level: 0.8 W

General

Classification of equipment

- Type of protection against electric shock:

Class I equipment

- Degree of protection against electric shock:

Type B equipment

- Degree of protection against harmful ingress of water:

Ordinary equipment

- Degree of safety of application in the presence of a flammable anaesthetic mixture:

Not protected equipment

- Mode of operation:

Continuous operation

- Information concerning type and frequency of technical maintenance:

Not need maintenance equipment

- Main power switch:

Functional switch

Power consumption

AC 150 W (0.8 to 0.6 A)

Power requirements

220 to 240 V AC, 50/60Hz

Operating temperature

0 to +35°C (32 to 95°F)

Storage temperature

-10 to +40°C (14 to 104°F)

Relative humidity

0 to 90 %

Pressure

860 to 1060 hpa

Dimensions

Approx. 450 × 457.5 × 503 mm (w/h/d)
(17 3/4 × 18 1/8 × 19 7/8 inches)
not incl. projecting parts and controls

Mass

Approx. 34 kg (74 lb 15 oz)

Accessory supplied AC power cord (1)
 AC plug holder (1)
 Splash-proof covers (2)
 Control panel cover (1)
 Panel hinges (2)
 Instructions for Use (1)
 Interface Manual for Programmers (1)
 Quick Reference Card (1)
 Double-sided adhesive tapes (4)
 Sales Companies Guide (1)

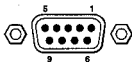
Pin assignment

Y/C IN connector (4-pin mini-DIN)



Pin No.	Signal	Description
1	Y-input	1 Vp-p, sync negative, 75 ohms
2	CHROMA subcarrier-input	300m Vp-p, burst Delay time between Y and C: within 0 ± 100 nsec., 75 ohms
3	GND for Y-input	GND
4	GND for CHROMA-input	GND

RS-232C connector (D-sub 9-pin)



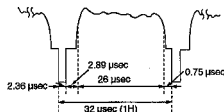
Pin No.	Signal
1	—
2	RX (Remote computer → Monitor)
3	TX (Monitor → Remote computer)
4	—
5	GND
6	—
7	—
8	—
9	TALLY ON/OFF ^②

c) ON when pin 5 and pin 9 are shorted.

System specification

Signal timing chart for 625/50/1:1

H (Horizontal)

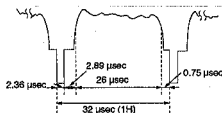


V (Vertical)



Signal timing chart for 625/100/2:1

H (Horizontal)



V (odd field)



V (even field)



Design and specifications are subject to change without notice.

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(CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK Δ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

[CAUTION : Double-pole/neutral fusing]

SECTION 1 GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

Features

Picture

HR (High Resolution) Trinitron® picture tube
The monitor is equipped with the HR Trinitron tube newly developed for professional use in broadcasting stations.

The HR Trinitron tube with Aperture Grill (AG) pitch of 0.30 mm provides a high resolution picture.

Digital comb filter

When PAL video signals are received, a digital comb filter activates to give a more accurate Y/C separation. This contributes to decreasing the vertical cross luminance phenomena which cannot be removed by the analog comb filter. The digital comb filter gives a high resolution picture.

Improvement of field flicker

With the field double scanning system incorporated, the monitor can much reduce flicker phenomena which cause severe eyes fatigue, especially in still image observation and for long time operation.

Input/control connectors

Analog RGB/COMPONENT input connectors

Analog RGB signals or component (Y, R-Y and B-Y) signals from video equipment can be input to these connectors. Input signals can be selected using the operation buttons and the on-screen menu.

External sync input connectors

When an RGB or component signal is input and the sync signal is set to external in the on-screen menu, the monitor can operate according to a sync signal supplied from an external sync generator.

Automatic termination

(connector with ∇ - ∇ mark only)

The input connector is terminated at 75 ohms inside when no cable is connected to the loop-through output connector. When a cable is connected to an output connector, the 75-ohm termination is automatically released.

RS-232C Interface

The monitor can be remotely controlled by a personal computer via the serial remote interface.

For detailed information on the commands, refer to the supplied interface manual.

Functions

Power saving

On sensing the absence of sync signals for a certain period, the monitor enters stand-by mode to reduce power consumption to approx. 25 %. This contributes to the power saving. You can select either of 30 minutes or 10 minutes from the on-screen menu as a period of sync signals absence.

Automatic reception of a progressive scan (625/50(1:1) signal)

The monitor can receive a progressive scan signal when the 625/50(1:1) signal designated in the specifications of the monitor is input. This allows for system expansion.

On-screen menus

Various monitor settings can be changed by using on-screen menus.

Underscan mode

The signal normally scanned outside of the screen can be monitored in the underscan mode. This makes it possible to view an image or screen of data in its entirety.

Auto/manual degauss

Degaussing of the screen is performed automatically when the power is turned on. When the color display becomes non-uniform, degauss the monitor manually by pressing the DEGAUSS button.

Five menu languages

You can select the language used for the on-screen menus from five languages: English, German, French, Italian and Spanish.

Splash-proof cover and control panel cover

The monitor can be covered with splash-proof covers and a control panel cover. The splash-proof covers protect the ventilation holes from splashes from medicines and other liquids, and a control panel cover protects the control buttons on the front panel from inadvertent operation.

Quick reference card

The quick reference card is supplied to help you understand the menu configuration and operating method without reading the instruction manual. The quick reference card can be attached to any convenient place with a supplied double-sided adhesive tape.

EIA standard 19-inch rack mounting

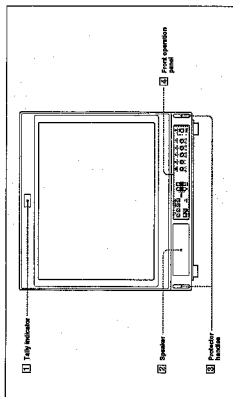
Using the SLR-103A slide rail (not supplied), the monitor can be mounted in an EIA standard 19-inch EIA standard rack.

For details on mounting, refer to the instruction manual supplied with the slide rail kit.

1) "Trinitron" is a registered trademark of Sony Corporation.

Location and Function of Parts and Controls

Front



1 Tally Indicator

Lights when the video equipment connected to this monitor is in the tally position. The tally light is selected when the video equipment connected to this monitor is selected. A tally control connection is needed on the RS-232C connector. The light can also be turned on by sending a command from the computer.

For detailed information, see "RS-232C connector (D-sub 25-pin) connection" on page 34, or refer to the supplied description manual.

2 Speaker

Provides transmit sounds.

3 Protector handle

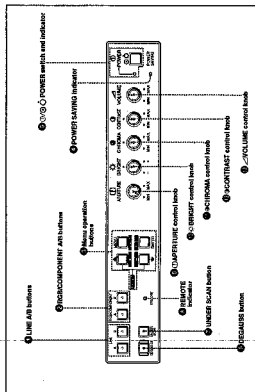
Pull out or insert the monitor to lock these handles when mounting the monitor in the EIA standard 19" rack. These handles also function to protect the control buttons and knobs from damage when the monitor is being broken when you tilt the monitor.

4 Front operation panel

Operation buttons, control knobs and indicators are located on the front operation panel.

For detailed information, see the operation panel, see "Front Operation Panel" on the next page.

Front Operation Panel



1 LINE A/B (input select) buttons

Selects the input signal to be monitored. The indicator on the pressed button lights.

Input signal	Press
Signal fed through the LINE A connector	LINE A
Signal fed through the LINE B connector	LINE B

2 RECOMPONENT A/B (input select)

Pers to select a signal to be monitored. The indicator on the pressed button lights.

Input signal	Press
Signal fed through the RECOMPONENT A connector	RECOMPONENT A
Signal fed through the RECOMPONENT B connector	RECOMPONENT B

aj The signal fed through the RECOMPONENT A/B connectors can be selected from the RGB SYSTEM menu.

For detailed information on selecting the RGB or RECOMPONENT A/B signal, see the "RGB SYSTEM menu" on page 22.

Location and Function of Parts and Controls

● LINE B connectors

Input connectors for the Y/C separate video and audio signals and their loop-through output connectors. To monitor the input signal fed through these connectors, press the LINE B button on the front panel.

Y/C IN (input) connector (4-pin mini-DIN)

Connect to the Y/C separate output connector of a color video camera, VCR or other video equipment.

For pin assignments of the Y/C IN connector, see "Y/C IN connector (4-pin mini-DIN)" on page 30.

Y/C OUT (output) connector (4-pin mini-DIN)

Loop-through output of the Y/C IN connector.

Connect to the Y/C separate input connector on a VCR or another monitor.

When the cable is connected to this connector, the 75-ohm input termination is automatically released, and the signal input to the Y/C IN connector is output from this connector.

AUDIO IN (input) connector (phone jack)

Connect to the audio output connector on a VCR or other equipment. For a loop-through connection, connect to the audio output on another monitor.

AUDIO OUT (output) connector (phone jack)

Loop-through output of the AUDIO IN connector. Connect to the audio input connector on a VCR or another monitor.

● RGB/COMPONENT A connectors

Input connectors for the R/G/B signals or component signals, external sync signals and audio signals and their loop-through output connectors.

To monitor the input signal fed through these connectors, press the RGB/COMPONENT A button on the front panel. Then, select one of the four items RGB-EXT SYNC, RGB-SYNC ON G, COMP-EXT SYNC or COMP-SYNC ON Y on the RGB SYSTEM-RGB A menu.

For detailed information on settings, see "To select the signal to be monitored through the RGB/COMPONENT connectors" on page 22.

R/G/B IN or R-Y/B-Y IN (input) connectors (BNC-type)

When RGB-SYNC ON G or COMP-SYNC ON Y is selected on the RGB SYSTEM-RGB A menu, the monitor operates on the sync signal from the G/Y channel.

When RGB-EXT SYNC or COMP-EXT SYNC is selected on the RGB SYSTEM-RGB A menu, the monitor operates on an external sync signal.

To monitor the analog RGB signal: Connect to the analog RGB output connectors on a video camera, VCR or other video equipment.

To monitor the component signal: Connect to the R-Y/B-Y component output connectors on video equipment.

R/G/B OUT or R-Y/B-Y OUT (output) connectors (BNC-type)

Loop-through outputs of the R-Y/B-Y, G/Y IN and B/B-Y IN connectors.

When cables are connected to these connectors, the 75-ohm input termination is automatically released, and the signal inputs to the R-Y/B-Y, G/Y IN and B/B-Y IN connectors are output from these connectors.

To output the analog RGB signal: Connect to the analog RGB input connectors on a video printer or another monitor.

To output the component signal: Connect to the R-Y/B-Y component input connectors on video equipment.

AUDIO IN (input) connector (phone jack)

Connect to the audio output connectors on video equipment when the analog RGB or component signal is input.

AUDIO OUT (output) connector (phone jack)

Loop-through output of the AUDIO IN connector. Connect to the audio input connector on a VCR or another monitor.

EXT SYNC IN (external sync input) connector (BNC-type)

Connect to the sync signal output on a video camera, VCR or other video equipment, when this monitor operates on an external sync signal.

To use the sync signal fed through this connector, select RGB-EXT SYNC or COMP-EXT SYNC on the RGB SYSTEM-RGB A menu.

EXT SYNC OUT (external sync output) connector (BNC-type)

Loop-through output of the EXT SYNC IN connector. Connect to the external sync input connector on video equipment to be synchronized with this monitor.

When the cable is connected to this connector, the 75-ohm input termination is released, and the signal input to the EXT SYNC IN connector is output from this connector.

For detailed information on settings, see "To select the signal to be monitored through the RGB/COMPONENT connectors" on page 22.

● REMOTE connector RS-232C (D-sub 9-pin)

Connect to the RS-232C control connector on a personal computer. You can operate the monitor with the commands from the computer.

For detailed information, refer to the supplied "Interface Manual for Programmers".

For pin assignments of the REMOTE connector, see "RS-232C connector (D-sub 9-pin)" on page 31.

● RGB/COMPONENT B connectors

Input connectors for the R/G/B signals or component signals, external sync signals and audio signals.

To monitor the input signal fed through these connectors, press the RGB/COMPONENT B button on the front panel. Then, select one of the four items RGB-EXT SYNC, RGB-SYNC ON G, COMP-EXT SYNC or COMP-SYNC ON Y on the RGB SYSTEM-RGB B menu.

For detailed information on settings, see "To select the signal to be monitored through the RGB/COMPONENT connectors" on page 22.

R/G/B IN or R-Y/B-Y IN (input) connectors (BNC-type)

When RGB-SYNC ON G or COMP-SYNC ON Y is selected on the RGB SYSTEM-RGB B menu, the monitor operates on a sync signal from the G/Y channel.

When RGB-EXT SYNC or COMP-EXT SYNC is selected on the RGB SYSTEM-RGB B menu, the monitor operates on the external sync signal.

To monitor the analog RGB signal: Connect to the analog RGB output connectors on a video camera, VCR or other video equipment.

To monitor the component signal: Connect to the R-Y/B-Y component output connectors on video equipment.

AUDIO IN (input) connector (phone jack)

Connect to the audio output connectors on video equipment when the analog RGB or component signal is input.

EXT SYNC IN (external sync input) connector (BNC-type)

Connect to the sync signal output on a video camera, VCR or other video equipment, when this monitor operates on an external sync signal.

To use the sync signal fed through this connector, select RGB-EXT SYNC or COMP-EXT SYNC on the RGB SYSTEM-RGB B menu.

● Ground terminal

Connect to the equipotential plug to bring the various parts of a system to the same potential.

See "Symbols on the unit" on page 4.

Preparation

This section explains preparation required before attempting to operate the monitor, and how to connect to other equipment.

For detailed information on connecting the monitor to other equipment, refer also to the instruction manuals supplied with those equipment.

Connecting the AC Power Cord

Connect the supplied AC power cord to the ~AC IN connector and to a wall outlet.

Note

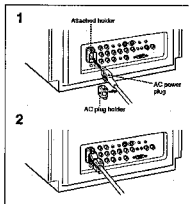
Always turn off the power of the monitor and other equipment before attempting to make connections.

Warnings and Precautions

- Use the supplied AC power cord.
- Set the power switch to OFF before connecting or removing the AC power cord.
- Make sure that the power supply conforms to the voltage rating in "Specifications" on page 29.

To connect an AC power cord securely with the AC plug holder

Before connecting the AC power cord to the ~AC IN connector and to a wall outlet, we recommend to connect an AC power cord securely with the AC plug holder as follows.



- 1 Plug the AC power plug into the attached holder. Then attach the supplied AC plug holder on the top of the AC power cord.

- 2 Slide the AC plug holder over the cord until it connects with the attached holder.

To disconnect the AC power cord

Note

Wait at least 10 seconds after switching OFF the power switch before disconnecting the AC power cord to discharge any static electricity from the CRT display tube.

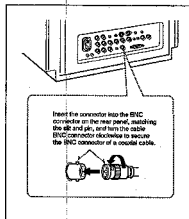
Pull out AC plug holder by squeezing the up and down side.

Connecting a Cable to the BNC Connector

Note

Before connecting the video equipment, see "Important safeguards/notices for use in the medical environments" on page 2.

Connect a coaxial cable with the BNC connectors to the BNC connectors on the rear panel as illustrated.



Connecting a Cable to the RS-232C Connector

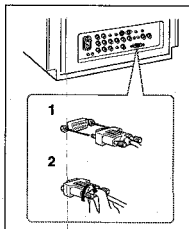
Note

Before connecting the video equipment, see "Important safeguards/notices for use in the medical environments" on page 2.

- 1 Align the plug and socket carefully.
- 2 Push fully in and tighten the screws by hand.

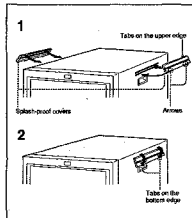
To disconnect the plug

Loosen the screws, and pull out the plug.



Preparation

Attaching the Splash-Proof Covers



In order to protect the ventilation holes from splashes from medicines, etc., attach the supplied splash proof covers as illustrated.

- 1 Hook the tabs on the upper edge into the ventilation holes, making sure that the arrows on the cover are facing down.

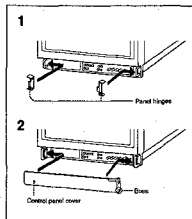
Note

Attach the splash-proof covers on all ventilation holes.

- 2 Push up the tabs on the bottom edge and fit the cover into the lowest ventilation holes.

Attach covers on both left and right vents.

Attaching the Control Panel Cover

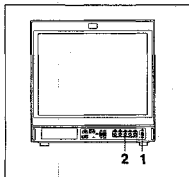


In order to protect the control buttons on the front panel from inadvertent operation, attach the supplied control panel cover.

- 1 Attach the panel hinges to the left and right grips from the inner side.
- 2 Fit the bosses on both sides of the control panel cover into the lower holes on the panel hinges, bending the control panel cover a little.

Operation

Getting Started



When the POWER SAVING indicator is lit
If no sync signals are received for a certain period, the POWER SAVING indicator lights, and the monitor screen blanks out. This is power saving mode. Touching any button other than the POWER switch will restore the monitor to normal operation.

Note

It takes about ten seconds for the picture to reappear on the screen after power saving mode is released.

If the color display becomes non-uniform
Press the DEGAUSS button so that the color uniformity becomes as even. If the color display becomes non-uniform even after pressing the DEGAUSS button, landing adjustment is required on the on-screen menu.

For details, see "To adjust the landing" on page 27.

To display the whole picture on the monitor
Press the UNDER SCAN button so that the signal normally scanned outside of the screen appears on the monitor.

Note

When the monitor is in under-scan mode, dark RGB scanning lines may appear on the top edge of the screen. These are caused by an internal test signal, and are not part of the input signal.

Note

- After the power has been turned on or you have pressed the DEGAUSS button on the front panel of the monitor, the monitor is demagnetized for approximately 10 seconds. This generates a strong magnetic field around the monitor which may affect data stored on magnetic tape or disks near the monitor. Place all magnetic recording equipment and tapes/disks well away from the monitor.
- Whenever you change the location of the monitor, degauss the monitor before adjustments are made.

- 1 Set the power switch to ON and then turn on the power on the other equipment.

We recommend warming up the monitor for at least 30 minutes after turning the power switch on and inputting the signal.

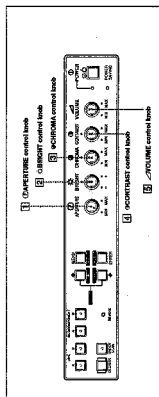
- 2 Adjust the monitor settings as required.

For detailed information on adjustments, see "Adjustment" on page 18, "Main menu functions" on page 22 and "USER SERVICE menu functions" on page 26.

Operation

Adjustment

This section explains adjustment performed using controls on the front panel of the monitor.



To adjust the sharpness

Turn the control towards MAX to sharpen the picture.
Turn the control towards MIN to soften the picture.

To adjust the brightness

Turn the control towards + to make the picture brighter.
Turn the control towards - to make the picture darker.

To adjust the color intensity of the video signal (color saturation)

Use the BRIGHTNESS control [3].
Turn the control towards MAX to increase the color intensity.
Turn the control towards MIN to decrease the color intensity.

To adjust the contrast

Use the CONTRAST control [4].
Turn the control towards MAX to increase the contrast.
Turn the control towards MIN to decrease the contrast.

To adjust the speaker volume

Turn the control towards MAX to increase the volume.
Turn the control towards MIN to decrease the volume.

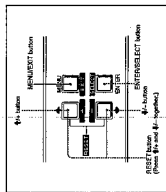
On-Screen Menus

The on-screen menus allow you to make various settings and adjustments of the monitor. The settings remain in memory even when the power is turned off.

Using the On-Screen Menus

Menu operation buttons

There are four menu operation buttons on the front panel of the monitor.



To display the on-screen menus

To display the on-screen menus (CALCULATION) on the on-screen menu, press the MENU button. To display the USER SERVICE menu, press and hold down the MENU button for 2 or 3 seconds.

To edit the on-screen menus

Each time you press the MENU/EXIT button, the screen returns to the one previously displayed. Press the MENU button until the target screen appears.

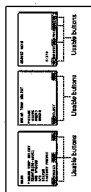
Functions of menu buttons

The functions of the menu operation buttons depend on the purpose that you want to do on the displayed on-screen menu.

The following table shows the button functions.

Button	To select menu item	To adjust selected menu item
MENU	Enter the menu item and the menu item of the previous menu.	Enter the menu and the menu item of the previous menu.
EXIT	Decide a selected item.	Set all menu items to the default value.
ENTER	Decide a selected item.	Set all menu items to the default value.
SELECT	Decide a selected item.	Set all menu items to the default value.
↑	Move the cursor () upwards.	Move the cursor () upwards.
↓	Move the cursor () downwards.	Move the cursor () downwards.
RESET	Reset the menu item and the menu item of the previous menu.	Reset the menu item and the menu item of the previous menu.

Buttons that can be used on each menu are displayed on the bottom line of the screen.



Usable menu buttons display the

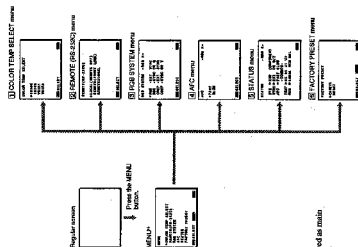
On-Screen Menus

On-Screen Menu Configuration

The monitor has two menus: Main menu (called MENU) on the left screen menu and USER SERVICE menu. These two menus have sub menus.

Main Menu

Main menu tree



a) This MENU is referred as main menu in this manual.

List of operation menus

The following list shows the function and factory setting of each menu. You can change the factory settings using the menu. To reset the settings to the factory settings, select RESET from the FACTORY PRESET menu.

For details, see "To reset the monitor status to the factory settings" on page 24.

Operation menu	Function	Factory setting	Reference page
1. COLOR TEMP SELECT	Selects the color temperature	5000K	22
2. REMOTE (RS-232C)	Selects monitor operation mode when receiving the number via the RS-232C interface	LOCAL (REMOTE OFF)	22
3. RGB SYSTEM	Selects the signal to be monitored through the RGB COMPONENT	RGB-EXT SYNC	22
4. AFC	Selects the AFC time constant to correct the picture of Y/CB when it is slow on the left part of the monitor screen.	FAST	23
5. STATUS	Checks the current menu settings for the monitor		28
6. FACTORY PRESET	Resets the monitor status to the factory settings	CANCEL	23

On-Screen Menus

Displaying the main menu

Press the MENU button.
The main menu appears.

Main menu functions

This section explains settings which you can change using the operation menus.

To select the color temperature

The monitor has two preset color temperatures, 6500K and 5000K and two customized color temperatures USER 1 and USER 2. You can select out of these four standard temperatures on the COLOR TEMP SELECT menu.

1 COLOR TEMP select menu



Item	Function
6500K	Sets the color temperature to 6500K.
5000K	Sets the color temperature to 5000K.
USER 1	Sets the color temperature to the one set on USER 1 COLOR TEMP ADJ menu.
USER 2	Sets the color temperature to the one set on USER 2 COLOR TEMP ADJ menu.

You can adjust the color temperature on the USER SERVICE menus of USER 1 and USER 2 to obtain a color temperature other than the factory settings of 6500K and 5000K.

For details of how to obtain a color temperature other than the factory settings, see "To adjust the white balance" on page 26.

To control the monitor via the RS-232C interface

You can select the monitor operation mode on the REMOTE (RS-232C) menu.

2 REMOTE (RS-232C) menu



Item	Function
LOCAL (REMOTE OFF)	Operates the monitor using the buttons and control knobs on the front panel of the monitor.
REMOTE (FRONT LOCK)	Controls the monitor remotely from a computer. Buttons and control knobs except the POWER switch do not function. To return to the REMOTE (RS-232C) menu from this mode, press the MENU/EXIT button for about 2 seconds.
REMOTE & LOCAL	Controls the monitor remotely from a computer. Control knobs such as APERTURE, BRIGHT, CONTRAST and VOLUME do not function.

To select the signal to be monitored through the RGB/COMPONENT connectors

You can select the signal to be monitored through the RGB/COMPONENT connectors on the RGB SYSTEM menu.

3 RGB SYSTEM menu



This menu appears when you press the RGB/COMPONENT A button on the front panel. When you press the RGB/COMPONENT B button, the RGB SYSTEM-RGB B menu appears.

Item	Function
RGB-EXT SYNC	Monitors the RGB signal while operating the monitor according to an external sync signal fed through the EXT SYNC connector.
RGB-SYNC ON G	Monitors the RGB signal while operating the monitor according to the sync signal from G channel.
COMP-EXT SYNC	Monitors the component signal while operating the monitor according to an external sync signal fed through the EXT SYNC connector.
COMP-SYNC ON Y	Monitors the component signal while operating the monitor according to the sync signal from Y channel.

When the LINE A/B button is pressed

If you select the RGB SYSTEM menu when LINE A or LINE B is selected with the LINE A/B button, the following menu appears.



To select the AFC (Automatic Frequency Control) time constant

If the signal input to the monitor from a VCR is deviated from the color system specifications, vertical lines of the picture may skew on the upper part of the monitor screen. You can reduce this problem by selecting the proper AFC time constant on the AFC menu.

4 AFC menu



Item	Function
FAST	Sets the AFC time constant to 1 msec.
SLOW	Sets the AFC time constant to 2 msec.

Note

If the picture is still skew even if you change the AFC setting, another problem can be considered. Check your VCR.

To confirm the current menu settings for the monitor

You can confirm the status of the current settings on each menu on the STATUS menu.

5 STATUS menu



When LINE A or LINE B is selected with the LINE A/B button

When the LINE A or LINE B is selected, the column of SYS and SYNC are displayed as follows.

SYS: ---

SYNC: ---

To reset the monitor status to the factory settings

You can reset the settings on all menus to the factory settings on the FACTORY PRESET menu.

6 FACTORY PRESET menu

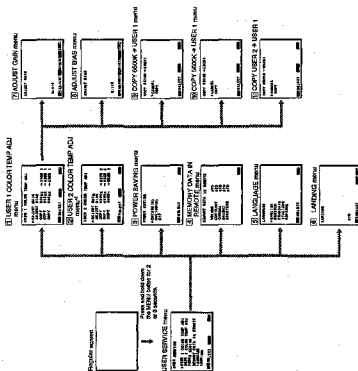


Item	Function
CANCEL	Cancels "FACTORY PRESET".
RESET	Resets all settings to the factory settings except for the "LANGUAGE" setting.

On-Screen Menus

USER SERVICE MENUS

USER SERVICE menu tree



a) The menu that the sample data increases in the USER 1 and USER 2 menu is the same as the menu that the sample data increases in the USER 1 and USER 2 menu.

List of operation menus

The following list shows the function and factory setting and reference page of USER SERVICE menu. The menu is divided into two groups: USER 1 and USER 2. To reset the settings to the factory settings, select RESET from the FACTORY PRESET menu. For details, see "To reset the number initial to the factory settings" on page 21.

User service menu	Function	Factory setting	Reference page
1) USER 1 COLOR TEMP ADJ	Adjusts the color temperature of USER 1 setting.	ADJUST GAIN	26
2) USER 2 COLOR TEMP ADJ	Adjusts the color temperature of USER 2 setting.	ADJUST GAIN	26
3) POWER SAVING	Completes the power saving function.	ON (OFF)	27
4) REMOTE	Completes the data set for the complete in remote control mode.	STD	27
5) LANGUAGE	Selects the menu language.	ENGLISH	27
6) LANGUAGE SHOW	Adjusts the signal handling.	STD	27
7) ADJUST GAIN	Adjusts the gain of R, G or B channel.	USER 1: data of 6500 K USER 2: data of 6500 K	28
8) COPY 6500K → USER 1	Completes the color temperature data of 6500 K to USER 1.	CANCEL	28
9) COPY 6500K → USER 2	Completes the color temperature data of 6500 K to USER 2.	CANCEL	28
10) COPY USER 2 → USER 1	Copies the color temperature data of USER 2 to USER 1.	CANCEL	28
11) COPY USER 2 → USER 1	Copies the color temperature data of USER 2 to USER 1.	CANCEL	28

On-Screen Menus

Displaying the USER SERVICE menu

With the regular screen displayed, press and hold down the MENU button for 2 or 3 seconds. The USER SERVICE menu appears.

USER SERVICE menu functions

This section explains settings which you can change using the USER SERVICE menus.

To adjust the white balance

The white balance can be adjusted using the color temperature setting. You can adjust the color temperature on the USER SERVICE menus of USER 1 and USER 2 to obtain a color temperature other than the factory settings of 6500K and 5600K.

Note

USER 1 is set to 6500K and USER 2 is set to 5600K in the factory setting each.

The following explains how to change the USER 1 COLOR TEMP ADJ menu setting.

1 USER 1 COLOR TEMP ADJ menu



- Select the desired color temperatures (6500K, 5600K or USER 2) to be used as standard when adjusting the color temperature by pressing the \uparrow or \downarrow .

Item	Meaning
COPY 6500K \rightarrow USER 1	The color temperature data of 6500K is copied to USER 1.
COPY 5600K \rightarrow USER 1	The color temperature data of 5600K is copied to USER 1.
COPY USER 2 \rightarrow USER 1	The color temperature data of USER 2 is copied to the one set on USER 1.

a) This is effective to preserve the original set temperature of USER 2. You can modify the value based on the value of USER 2.

- Press the ENTER button. The following menu appears.

5 COPY 6500K \rightarrow USER 1 menu



- Move the cursor () to COPY by pressing the \uparrow or \downarrow and press the ENTER button.

The message "DATA COPIED" appears when copying is completed.

- Press the MENU button. The standard color temperature menu displayed in step 1 appears.

- Adjust the bias and gain if you want to modify the copied color temperature.

Item	Function
GAIN	To adjust white balance based on compensates for high intensity lighting.
BIAS	To adjust the black balance (used to compensate for low intensity lighting).

- Move the cursor () to ADJUST GAIN by pressing the \uparrow or \downarrow and press the ENTER button. The ADJUST GAIN menu appears.

7 ADJUST GAIN menu



- Select the R, G or B channel by pressing the SELECT button.

- Adjust the volume of the selected channel by pressing the + or - buttons.

- Press the EXIT button. The standard color temperature menu reappears and the cursor is positioned on ADJUST BIAS.

- Repeat step 5 and 6 to adjust the bias. The screen displays with the adjusted value, but the data is not yet stored.

To reset the settings to the previous values
Press the \uparrow and \downarrow buttons (these buttons work as RESET button on the menu) simultaneously.

- Press the MENU button. The adjusted values are stored in memory.

To activate the power saving function
Turn the power saving function on in the following menu.

3 POWER SAVING menu



Item	Function
ON (20 MIN)	Reduces the power consumption to approx. 50%, 20 minutes after receiving the absence of sync signal.
ON (10 MIN)	Reduces the power consumption to approx. 25%, 10 minutes after receiving the absence of sync signal.
OFF	Turns off the power saving function.

To confirm the data set by the computer in remote control mode

You can confirm the settings controlled from the remote computer, such as volume, contrast, chroma, brightness and aperture. When you select MEMORY DATA IN REMOTE on the USER SERVICE menu and press the ENTER button, the MEMORY DATA IN REMOTE menu appears.

4 MEMORY DATA IN REMOTE menu



To select the menu languages

You can select the menu language from the following five languages: English, German, French, Italian and Spanish on the LANGUAGE menu.

5 LANGUAGE menu



To adjust the landing

If the color is not uniform even after you press the DEGAUSS button, you can adjust the landing so as to obtain color uniformity on the LANDING menu.

6 LANDING menu



The following two methods are available to adjust the landing.

One is to adjust landing as inputting the signal with which the horizontal lines are displayed. The other is to adjust landing as inputting the signal with which the whole screen becomes whitish. When inputting the signal for the horizontal lines Adjust using the + and - buttons until the lines become horizontal.

When inputting the signal with which the whole screen becomes whitish

Adjust using the + and - buttons until the white color becomes as uniform as possible. To reset the setting to standard (00) Press the \uparrow and \downarrow buttons together.

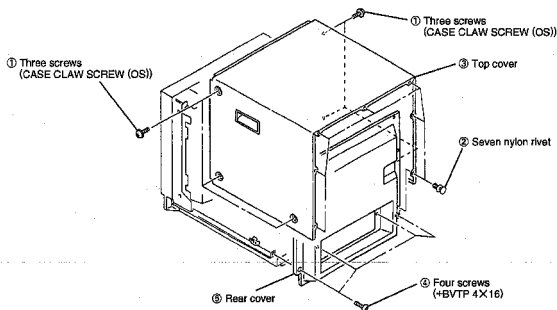
Troubleshooting

This section may help you isolate the problem. Should the problem persist, during the unit and contact your Sony dealer or local authorized Sony service facility.

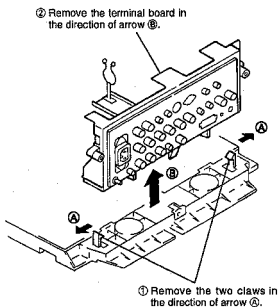
Symptom	Check these items
No picture If either the POWER indicator or the POWER SAVING indicator is lit	<p>Check that the power cord is properly connected. Condition the power switch if set to ON.</p> <p>OR</p> <p>Check the video signal and select the corresponding input channel pressing the LINE/RGB or RGB/COMPONENT/AV select buttons.</p>
If the POWER SAVING indicator blinks without the picture displayed	<p>When the monitor detects the abnormal state, the monitor automatically stops the power saving function. Press the POWER SAVING indicator on the monitor and turn the monitor power off on, and turn the power on again after about five seconds. If the POWER SAVING indicator continues to blink, turn the monitor power off and wait for about 10 minutes before turning the monitor power on again.</p>
If on-screen content does not appear	<p>REMOTE (FRONT LOCK) mode is selected on the REMOTE (RS-232C) panel. For details, see "To control the monitor via the RS-232C interface" on page 22.</p>
If the color display is non-representative	<p>Tip the power switch once to activate auto-degauge cycle. This function is to automatically adjust the color balance. After the auto-degauge cycle is completed, a 4 seconds frequency cycle is needed, allow a minimum interval of 30 minutes for the next auto-degauge cycle. For details, see "To adjust the color balance" on page 27.</p>
If white does not look white	<p>Perform color temperature adjustment. For details, see "To adjust the white balance" on page 26.</p>
If the screen is too bright and the contrast is too high when it is watched	<p>Contrast is too high. Turn the contrast control knob to the minimum value. However, when you connect the cable to the loop-through output connector and use the monitor as a loop-through monitor, the contrast cannot be adjusted on the monitor is unadjustable.</p>
If picture becomes or has very oscillations	<p>Select the appropriate sync signal on the RGB SYSTEM menu.</p>
If the picture is greenish or pinkish (phantom)	<p>When the picture is greenish: RGB is designated on the RGB SYSTEM menu. Select COMP on the RGB SYSTEM menu.</p> <p>When the picture is pinkish: RGB is designated on the RGB SYSTEM menu. Select RGB on the RGB SYSTEM menu.</p>
If the picture is tilted	<p>COMPONENT is selected on the RGB SYSTEM menu. Select RGB on the RGB SYSTEM menu.</p> <p>Adjust the bending on the LANDED menu. For details, see "To adjust the bending" on page 27.</p>

SECTION 2 DISASSEMBLY

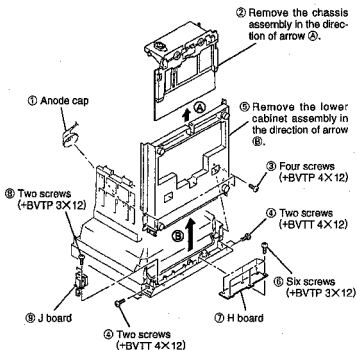
2-1. TOP COVER AND REAR COVER REMOVAL



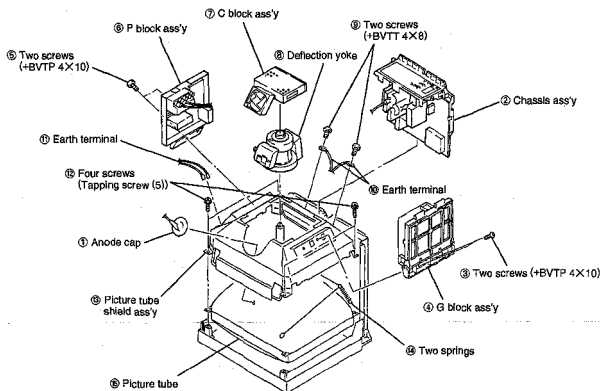
2-2. TERMINAL BOARD REMOVAL



2-3. J, H BOARDS REMOVAL



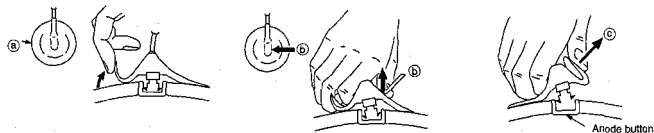
2-4. PICTURE TUBE REMOVAL



• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

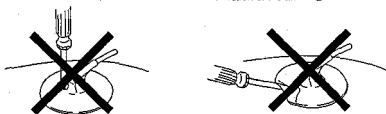
• REMOVING PROCEDURES



- ① Turn up one side of the rubber cap in the direction indicated by arrow ①.
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ②.
- ③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ③.

• HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardy not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardy!
The shatter-hook terminal will stick out or hurt the rubber.



SECTION 3

CIRCUIT DESCRIPTION

3-1. A (1/4) Board (page 1)

This monitor can receive the video signal of both $f_H = 15.625\text{kHz}$ and $f_H = 31.25\text{kHz}$. The input video signal (PAL and others) of $f_H = 15.625\text{kHz}$ is DOUBLE SCAN-converted at the B board which is the signal of $f_H = 31.25\text{kHz}$, and displayed on CRT screen. The signal of $f_H = 15.625\text{kHz}$ is abbreviated as **15K**, the DOUBLE SCAN-converted **15K** signal as **EE** (Flicker Free) and the input signal having $f_H = 31.25\text{kHz}$ from the beginning as **31K** in this section of circuit description.

Page 1 shows the signal processing circuit of **15K**, and the respective sync separator circuit of **15K** and **31K**. IC10 (CXD2024AQ) is a digital comb filter operating on the 4 fsc clock which is also used in the chroma decoder of IC13 (M51279FP). If the signal at TP20 (VCXO) is not output at the frequency of 4 fsc, no output comes out from IC10 pin ④ (Y. OUT). CP1 is the PAL U/V separator. IC11 (MM1231XFF) switch 5 is the switch selecting either the LINE A/B signal or the RGB/COMP A/B signal, and sends the pin ③ output to the sync separator circuit IC6 (MM1111XFF). The IC11 output **15K** is amplified and sent to the B board.

3-2. A (2/4) Board (page 2)

Page 2 shows the signal processing circuit for **31K** and **EE**. IC1005 (MM1231XFF) SW. 6 is the selector switch which selects either the **EE** output signal from the B board or the **31K** output signal from the Q board (input/output terminal board). If the RGB mode is selected, the selected signal is sent to IC1015 (MM1231XFF) SW.7 directly. The component signal (including video and Y/C) is sent to the chroma volume control circuit, aperture circuit and to the matrix circuit.

IC1022 and IC1023 (CXA1521M) constitute the chroma volume control circuit. The delay lines DL1001 and DL1002, and the related transistors form the aperture circuit. The output signal of the aperture circuit is buffered by Q1036 and added to the Y signal through R1116. IC1007 and IC1010 (CXA1211M) are the video volume control which determines the matrix gain. IC1008 and IC1009 (MC14066BF) are the clamp circuit.

The transistors Q1016, Q1035 and Q1043 are the additive operation transistors which convert the component signal to the RGB matrix signal. IC1016 (CXA1739S) controls the auto white balance, contrast, brightness and aperture. It switches the OSD (On Screen Display) characters. IC1003 (MC74HC158BF) SW.9 selects either the **EE** sync or **31K** sync signal. the selected sync is sent to IC2013 (page 3). The output signal from IC1016 (R. G. B) are input to the C board.

3-3. A (3/4) Board (page 3)

Page 3 has the control CPU and the small signal processing circuit of the deflection system. IC2003 (control CPU) is the heart of this monitor having the functions such as system identification, nonvolatile RAM control, key scan, remote identification and peripheral control. The system identification is performed by observing the signal frequency at pin ⑦ (2H. SYNC), and identifies if the signal is **15K** or **31K**. Result of identification controls IC1001 pin ④ (FF/PROG). Then the system is identified by observing the signals at pin ④ (v. sync) and pin ② (INTER/PROG). In accordance with the result of system identification, the appropriate data from pin ② and CLK from pin ③ are sent to the peripheral devices. The peripheral devices are such devices as the extended shift register (IC1001), the electronic volume control (IC1002, IC1011, IC2015), the deflection signal generator (IC2010), the OSD CPU (IC2014) and others.

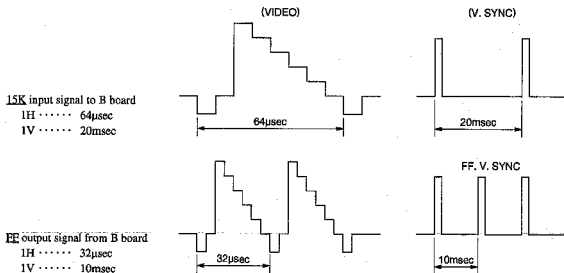
As long as the CPU operates normally, the clock signal appears at pin ⑧ PIC and the positive polarity pulse of almost V rate appears at pin ③ (watch dog timer), with pin ③ being set to H. IC2005 and IC2006 are the nonvolatile RAM in which the default and user adjustment data are stored. The RAMs communicate with the CPU through IIC bus. IC2008 (CXA1470AM) generates sawtooth wave and parabola wave. IC2010 (CXA8021M) performs addition and multiplication of the waveforms generated by IC2008 under the control of CPU, and generates the deflection base waveform such as pin ⑧ (V. DEFL) signal. IC2013 (CXA1543M) is the H/V oscillator generating the HD and VD signals which are the reference timing of the deflection system.

3-4. A (4/4) Board (page 4)

Page 4 has the horizontal pin distortion correction circuit, high voltage control circuit, high voltage output circuit, audio circuit, LCC (landing correction circuit coil) circuit, protector circuit and video pre-amplifier circuit. IC3003 (CXA1544M) is the PWM (Pulse Width Modulation) controller for horizontal pin distortion correction and high voltage control. Q3031 is the high voltage output transistor. IC3009 is the output amplifier for LCC circuit. IC3030 is the +B power supply switch which is turned on and off by the PWM controller output in order to maintain the HV (high voltage) at a constant voltage. IC3007 is the high voltage protector and the IK protector. If Q3031 (HV OUT) is broken to cause short circuit, Q3030 and R3164 could be broken at the same time.

3-5. B Board

The B board has the digital double scan circuit which convert 15K to EE signal. By this circuit, the PAL field frequency is made to be 100Hz so that one field signal is made to scan the CRT two times thus removing the field flicker.



The output signal (EE) from the B board is compressed to 1/2 in time base. IC701, IC702, IC703 constitute an A/D converter for TG/Y, B/B-Y, R/R-Y with the sampling clock of about 14.2MHz. IC708, IC709, IC710 are the field memory. IC 711 is the D/A converter with the read clock of about 28.4MHz.

IC712 is the flicker free control CPU having the functions of the double scan processing of H. sync, V. sync, frequency division of 28.4MHz clock, A/D conversion, memory and D/A timing control. IC716 selects the sync signal when no signal is input. IC714 selects the AFC filter, and IC704 is the VCO (with output of about 28.5MHz). The output signal from the B board is supplied through the low-pass filter of FL708, FL709 and FL710.

In summary, the B board receives 15K from the A board page 1, performs the double scan (flicker free) processing for the signal and H/V sync, and outputs them to the A board page 2.

3-6. P Board

The P board has the horizontal output circuit, vertical output circuit and the vertical static convergence circuit (V. STA). IC901 (TDA8172) is the V. output IC. Because the positive power supply (+15V) of the V. output circuit is generated from the 3rd order output of the FBT (T3003), the high voltage circuit stops if the V. output circuit is stopped. Q911 is H. output transistor. The horizontal PIN distortion correction is controlled by +B switch of Q903. If Q911 becomes defective and shorted, Q903 and R916 could be broken at the same time. IC904 (2/2) is the V. STA circuit. Output of the V. STA is supplied to the neck twist coil (NTC) which is located at the CRT neck.

3-7. C, G, H and Q Boards

The C board is the video output board located at the CRT neck. The G board is power supply board. If any abnormality occurs in its load, R616, R617, R619, R620, R629, F601 or F602 could be opened. The H board is the front control board. The Q board is the input/output terminal board on the rear of the monitor. IC403 is the RS-232C interface which converts the RS-232C signal level to the +5V level.

3-8. Power Saving Circuit

In this monitor, the CPU (IC2003) monitors pin ④ (V. sync) and pin ⑤ (2H. SYNC), and enter the power saving operation if "NO SYNC" is detected for the period of 10 minutes or 30 minutes. If the monitor enters the power saving operation, Pin ① (AP01) of the CPU is set to H which stops the HV. out drive pulse through Q3015 of the A board page 4 which turns off the high voltage circuit. Then, pin ② (APO2) is set to H which stops the horizontal drive pulse (HD) through IC2007 (4/5), and also stops the vertical reference pulse (V. DEFL) through IC2012 which stops the V. out.

3-9. Trouble Detection Circuit

If this monitor has a trouble, the trouble detection circuit is included to help locating the cause of trouble. The trouble detection is performed by the pin ③ to pin ⑥ of the CPU (IC2003). The troubles which are not input to the CPU cannot be detected. Result of trouble detection is displayed by the flashing of the POWER SAVING indicator.

Number of flashing and main cause of trouble

- 1 time H. output (P board Q911) is stopped.
- 2 times V. output (P board IC901) is stopped.
- 3 times HV protector is operating.
- 4 times IK protector is operation or excess current of +B power supply of HV output
- 5 times Fan is stopped, or HV output circuit is stopped resulting in stop of fan.
- 6 times IIC bus communication error
- 7 times Other errors

In the case if no picture is output and the POWER SAVING INDICATOR does not flash.

If the POWER SAVING indicator does not turn on, +12V power supply could be defective. Press the UNDER SCAN switch and confirm that the UNDER SCAN indicator turns on. If it does not turn on, +5V power supply might be defective, or fuses (F601, F602) are open. In other word, trouble in +12V power line can be detected from the POWER indicator while +5V power line can be detected from the UNDER SCAN indicator. If both of them are defective, the entire power supply unit could be defective (blown fuse, no AC input, defective SRT, and others).

SECTION 4

SET-UP ADJUSTMENTS



4-1. NOTE

How to Enter and Use the Service Mode

1. How to enter the service mode

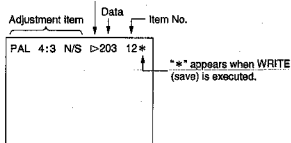
Press **MENU**. While the menu is appearing, press **DEGAUSS** and **ENTER** at the same time.

2. How to operate the service mode

MENU Moves UP the item.
ENTER Moves DOWN the item.
 Increase UP the data.
 Decrease DOWN the data.

example: Service mode display

"▷" is the value stored in the nonvolatile memory.



3. How to WRITE (save) the data.

Press **DEGAUSS**, and "WRITE" appears. Remove the hand from the key once. Press **DEGAUSS** again, and " * " appears, and the data is stored.

4. How to set the FACTORY SET (default memory when shipped from the plant)

Keep pressing **DEGAUSS** for 2 seconds, and "FACTORY SET" appears. Remove the hand from the key once. Press **DEGAUSS** again, and FACTORY SET is executed.

If FACTORY SET is executed, No. 202 **FACTORY FLAG** = "0" (DONE) is obtained. FACTORY SET can be executed only once. Since this setting is executed in the plant, this command is not necessary to operate in service (field).

5. How to exit from the service mode

While pressing **DEGAUSS**, press **ENTER**.

Detection of Cause of Trouble (Reference)

Cause of trouble can be located by the flashing of LEDs of this set.

- Main cause of flashing of the POWER SAVING LED
 - Flashing once H. OUT is stopped.
 - Flashing twice V. OUT is stopped.
 - Flashing three times HV, protector error.
 - Flashing four times IK, protector error or excessive current of +B power line for HV OUT.
 - Flashing five times Fan is stopped or fan is stopped as the HV OUT circuit is stopped.
 - Flashing six times IFC bus communication error. (nonvolatile memory error)
 - Flashing seven times Other errors.
- The POWER LED does not illuminate or dark.
 - Main cause 12V power (from the G board) is defective, blown main fuse, or excessive load to 12V power line.
- The REMOTE LED does not illuminate in the remote mode.
 - Cause: 5V power (digital) circuit is defective.
- Picture does not appear.
 - Microprocessor is not inserted. G2 voltage is too low, etc.

Default Setting When Shipped From the Plant

1. Select the normal mode.
2. Execute item "4. How to set the FACTORY SET (default memory when shipped from the plant)".

No. 202 **FACTORY FLAG** = "0"

3. Set the front controls to the factory setting positions:

APERTURE	Minimum
BRIGHT	50% (center click position)
CHROMA	50% (center click position)
CONTRAST	80% (center click position)
VOLUME	30%

POWER switch OFF

4. Execute RESET.

No. 210 **RESET**

Service Menu Item List

No.	Mode	Size	Scan	Item	No.	Remarks
1	FREE-PAL			G2	1	
2				H.OSC	2	
3				H.SIZE	3	
4				H.CENTER	4	
5				H.PHASE	5	
6				H.KEY	6	
7				H.PIN	7	
8				V.SIZE	8	
9				V.CENTER	9	
10				V.PHASE	10	
11	PAL	4:3	NORMAL	H.OSC	11	
12				H.SIZE	12	
13				H.CENTER	13	
14				H.PHASE	14	
15				H.KEY	15	
16				H.KEY.BAL	16	
17				H.PIN	17	
18				H.PIN.BAL	18	
19				V.SIZE	19	
20				V.CENTER	20	
21				V.PHASE	21	
22				V.LIN.BAL	22	
23				V.LIN	23	
24				H.BLK	24	
25				V.BLKT	25	
26				V.BLKB	26	
27			UNDER	H.SIZE	27	
28				H.KEY	28	
29				H.PIN	29	
30				V.SIZE	30	
31				H.BLK	31	
32				V.BLKT	32	
33				V.BLKB	33	
34		16:9	NORMAL	H.KEY	34	
35				H.PIN	35	
36				V.SIZE	36	
37				V.BLKT	37	
38				V.BLKB	38	
39			UNDER	H.KEY	39	
40				H.PIN	40	
41				V.SIZE	41	
42				V.BLKT	42	
43				V.BLKB	43	
44	NTSC	4:3	NORMAL	H.SIZE	44	
45				H.PHASE	45	
46				H.KEY	46	
47				H.KEY.BAL	47	
48				H.PIN	48	
49				H.PIN.BAL	49	
50				V.SIZE	50	
51				V.CENTER	51	
52				V.PHASE	52	
53				H.BLK	53	
54			UNDER	H.SIZE	54	
55				H.KEY	55	
56	NTSC	4:3	UNDER	H.PIN	56	
57				V.SIZE	57	
58				H.BLK	58	
59		16:9	NORMAL	H.KEY	59	
60				H.PIN	60	
61				V.SIZE	61	
62			UNDER	H.KEY	62	
63				H.PIN	63	
64				V.SIZE	64	
65	2PAL	4:3	NORMAL	H.PHASE	65	
66				H.KEY	66	
67				H.KEY.BAL	67	
68				H.PIN	68	
69				H.PIN.BAL	69	
70				V.SIZE	70	
71				V.CENTER	71	
72				V.PHASE	72	
73				V.LIN.BAL	73	
74				V.LIN	74	
75		16:9	UNDER	H.KEY	75	
76				H.PIN	76	
77				V.SIZE	77	
78			NORMAL	H.KEY	78	
79				H.PIN	79	
80				V.SIZE	80	
81			UNDER	H.KEY	81	
82				H.PIN	82	
83				V.SIZE	83	
84	2NTSC	4:3	NORMAL	H.PHASE	84	
85				H.KEY	85	
86				H.KEY.BAL	86	
87				H.PIN	87	
88				H.PIN.BAL	88	
89				V.SIZE	89	
90				V.CENTER	90	
91				V.PHASE	91	
92		16:9	UNDER	H.KEY	92	
93				H.PIN	93	
94				V.SIZE	94	
95			NORMAL	H.KEY	95	
96				H.PIN	96	
97				V.SIZE	97	
98			UNDER	H.KEY	98	
99				H.PIN	99	
100				V.SIZE	100	
101	1125		NORMAL	H.OSC	101	
102				H.SIZE	102	
103				H.CENTER	103	
104				H.PHASE	104	
105				H.KEY	105	
106				H.PIN	106	
107				V.SIZE	107	
108				V.PHASE	108	
109				H.BLK	109	
110				V.BLKB	110	

PVM-20M7MDE

Service Menu Item List

No.	Mode	Size	Scan	Item	No.	Remarks
111	1125		UNDER	H.SIZE	111	
112				H.KEY	112	
113				H.PIN	113	
114				V.SIZE	114	
115				H.BLK	115	
116				V.BLKB	116	
117	1050		NORMAL	H.SIZE	117	
118				H.PHASE	118	
119				V.SIZE	119	
120				V.PHASE	120	
121			UNDER	H.SIZE	121	
122				V.SIZE	122	
123	1250		NORMAL	H.SIZE	123	
124				H.PHASE	124	
125				V.SIZE	125	
126				V.PHASE	126	
127			UNDER	H.SIZE	127	
128				V.SIZE	128	
129	PAL			CRYSTAL	129	
130				COLOR	130	
131				HUE	131	
132				U-PHASE	132	
133				R-Y.DA1	133	
134				Y.DA1	134	
135				B-Y.DA1	135	
136				SUB.B-Y.DA	136	
137				Y.DA2	137	
138				SUB.B-Y.DA	138	
139				MDA1	139	
140				MDA2	140	
141				MDA3	141	
142				MDA4	142	
143	PAL Y/C	Y/C		R-Y.DA1	143	
144				Y.DA2	144	
145				B-Y.DA1	145	
146	NTSC			CRYSTAL	146	
147				COLOR	147	
148				HUE	148	
149				U-PHASE	149	
150				R-Y.DA1	150	
151				Y.DA1	151	
152				B-Y.DA1	152	
153	NTSC Y/C	Y/C		R-Y.DA1	153	
154				Y.DA2	154	
155				B-Y.DA1	155	
156	COMP	N10		R-Y.DA1	156	
157				Y.DA1	157	
158				B-Y.DA1	158	
159		BETA		R-Y.DA1	159	
160				B-Y.DA1	160	
161	RGB			R-Y.DA1	161	
162				Y.DA1	162	
163				B-Y.DA1	163	
164	2COMP			Y.DA2	164	
165				MDA1	165	

No.	Mode	Size	Scan	Item	No.	Remarks
166	2COMP			MDA2	166	
167	COMP	HD		MDA1	167	
168				MDA2	168	
169				MDA3	169	
170				MDA4	170	
171	6500K			RED.BIAS	171	
172				GREEN.BIAS	172	
173				BLUE.BIAS	173	
174				RED.GAIN	174	
175				GREEN.GAIN	175	
176				BLUE.GAIN	176	
177	5600K			RED.BIAS	177	
178				GREEN.BIAS	178	
179				BLUE.BIAS	179	
180				RED.GAIN	180	
181				GREEN.BIAS	181	
182				BLUE.BIAS	182	
183				SUB.BRIGHT	183	
184		4:3	NORMAL	SUB.CONTRAST	184	
185			UNDER	SUB.CONTRAST	185	
186		16:9	NORMAL	SUB.CONTRAST	186	
187			UNDER	SUB.CONTRAST	187	
188				OSD.DA	188	
189				PROT.DA	189	
190				REF.DA	190	
191				LINE SELECT	191	
192				SCAN SELECT	192	
193				RGB SYSTEM	193	
194				N10/BETA	194	
195				COLOR TEMP	195	
196				REMOTE	196	
197				DISPLAY	197	
198				LANGUAGE	198	
199				POWER SAVING	199	
200				SPECIAL ENABLE	200	* 1
201				AGING MODE	201	
202				FACTORY FLAG	202	* 2
203				SERVICE OSD	203	
204				SERVICE FLAG	204	
205				FAILURE	205	
206				USERDATA CLEAR	206	
207				DEGAUSS ON	207	
208				WRITE	208	
209				READ	209	
210				RESET	210	* 3
211				P.SAVING ON/OFF	211	* 4
212				OSD MODE	212	
213				SETUP	213	
214				CONT B	214	* 5
215				B&W	215	
216				TALLY	216	

* 1 : special = 1

* 2 : 0 is set when shipped from the plant

* 3 : FACTORY PRESET

* 4 : Forced

* 5 : AFC

4-2. Working Conditions

1. Standard Inspection Setup

Perform the adjustments in the following setup unless other specified.

APERTURE	Minimum
BRIGHT	50% (center click position)
CHROMA	50% (center click position)
CONTRAST	80% (center click position)
VOLUME	50%

4:3 N/S (normal scan)

If the main power is turned on again, enter the service mode and perform No. 210 **RESET**.

Note 1: The letters in the square mark indicate the item of the service mode.

Whenever any adjustment is made in the service mode, perform **WRITE** to save the data.

If the system or SCAN remains the same setting, the data remains in the RAM.

Note 2: Be careful that LANDING = STD is established. If **RESET** is performed, STD is obtained.

2. AC Voltage Setting

AC 220V±3V

Use a variable transformer or separate (NF) power supply having capacity of 1.5A or more with distortion of 3% or less.

3. Specifications of Required Signals

• Signal Specification Table

Signal		Signal Contents	Specified Level p-w
VIDEO (Composite Y/C)	NTSC	100% white (Y)	0.714 [V]
		75% white (Y)	0.536 [V]
	PAL	100% white (Y)	0.700 [V]
		75% white (Y)	0.525 [V]
COMPONENT	N10 SMPTE	100% white (Y)	0.700 [V]
		75% white (Y)	0.525 [V]
	Double Speed	100% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.700 [V]
		75% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.525 [V]
	HD (BTA S-001)	100% white (Y)	0.714 [V]
		75% white (Y)	0.536 [V]
	BETACAM	100% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	1.008 [V]
		75% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.756 [V]
		100% white (R, G, B)	0.700 [V]
		75% white (R, G, B)	0.700 [V]
R G B	625 2:1		
	525 2:1		
	625 1:1		
	525 1:1		
AUDIO	HD (BTA S-001)	-5.0dBs	0.436Vrms

4-3. Landing Adjustment

1. Direct the set toward either east or west.

Set the CONTRAST to MAX.
Set the BRIGHTNESS for good viewing.
Receive the PAL green signal.

2. Move back the DY.

Note: If the AC power is 50Hz, remove the input signal to make the set free-running and degauss the set.

3. Degauss the set using an external degausser.

4. Adjust the purity magnet until the green raster comes to the center of screen. (Fig. 1)

5. Move the DY forward until the entire screen become green only screen. (Fig. 3)

6. Check then the-B and R signal. If a signal color cannot be obtained, return to step 5. (Fig. 6, Fig. 9)

7. Adjust tilt of the DY.

8. Tighten the DY stop bracket gently.

9. Return the CONTRAST and BRIGHTNESS to standard condition.

10. Receive the PAL green signal. Set the CONTRAST to MAX.

11. Degauss the entire set using the hand degausser, and again degauss the CRT surface finally.
Then degauss the entire screen of CRT using manual degauss.

12. Adjust the DY position, purity, DY tilt, centering and landing at four corners. Tighten the DY stop bracket temporarily.

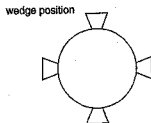
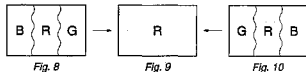
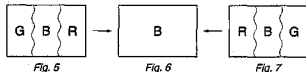
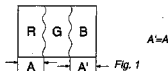
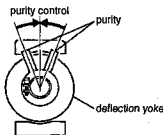
13. Regarding the neck up and down adjustments, and the neck right and left adjustments of DY, perform these neck adjustments until the trapezoidal waveform is symmetrical in vertical and horizontal directions. Then insert the wedges so that the DY is fastened.

14. Check landing at four corners. If landing error is found, attach the disk-magnets to correct the landing error.

The magnets must be attached in the diagonal lines in the range of 80 to 100mm from the DY.

If magnets are used, degauss the set and confirm it.

Number of magnet must be 4 or less. Use one magnet at maximum for one corner.

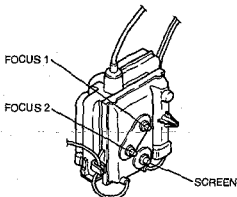


15. Check the color purity of R, G and B using the single color respectively.

16. Check that the DY is not tilted, and tighten the DY stop bracket and fix it using white paint.

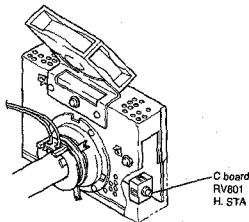
4-4. Focus Adjustment

1. Receive the 625 monoscope signal.
2. Adjust the H. FOCUS (FOCUS 1 of FBT) until the vertical lines have the optimum (just) focus.
3. Adjust the V. FOCUS (FOCUS 2 of FBT) until the horizontal lines have the optimum (just) focus.
4. Repeat adjustment of steps 2 and 3 to obtain tracking of them until the entire screen has the optimum focus as an average.

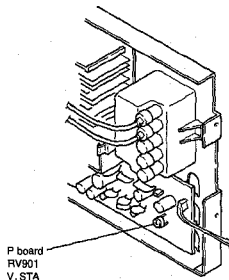


4-5. Convergence Adjustment

1. Receive the PAL dot signal
Set the CONTRAST to good viewing setting.
Set the BRIGHTNESS to MIN.
2. Align the markings on the 6-pole magnets of the CRT neck assembly.
3. Perform the rough convergence adjustment in the horizontal direction using the H. STA (C board).



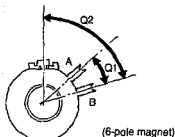
4. Perform the rough convergence adjustment in the vertical direction using the V. STA (P board).



5. Perform the manual degauss.
6. Receive the PAL cross-hatch signal.
7. Adjust the H. STA and the V. STA to show the three parallel lines of R, G, B intentionally.

H. STA on the C board (RV801)
V. STA on the P board (RV901)

8. Adjust the 6-pole magnets on the neck assembly so that the distance between R-G and between B-G becomes equal in both horizontal and vertical directions.



Perform the static convergence correction by adjusting the two levers; angle Q1 between A and B, and tilt Q2. (When Q1 = 0, amount of correction = 0.)

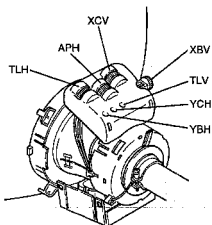
9. Adjust the H. STA and V. STA until the convergence error at the center of display becomes zero.
10. Adjust TLV.

11. Adjust the XBV reactor so that the XBV convergence error becomes zero.

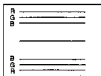
Adjust the XCV reactor so that the XCV convergence error becomes zero.

Note: If the XBV is adjusted, re-adjust the V. STA.

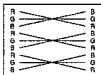
If the XCV exceeds the adjustable range, adjust the DY neck in vertical direction.



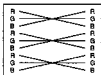
TLV V. TILT



XCV V. X. CROSS



XBV V. X. BOW



12. Adjust the APH reactor to remove the H. AMP convergence error.

13. Adjust the TLH reactor to remove the H. TILT convergence error.

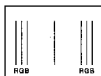
Note: If the TLH is adjusted, re-adjust the H. STA.

14. Adjust the YBH to remove the YBH convergence error.

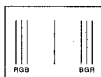
15. Adjust the YCH to remove the YCH convergence error.

Note: If the horizontal trapezoidal signal cannot satisfy the specification, perform the DY horizontal neck adjustment and obtain the tracking between the adjustments.

APH H. AMP



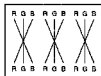
TLH H. TILT



YCH H. Y. CROSS



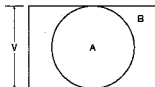
YBH H. Y. BOW



16. Check convergence on the entire screen. Perform the H. STA adjustment, other adjustments and permalloy correction as required.

17. Check convergence on the entire screen.

< Convergence adjustment specifications >



A zone 0.40mm

B zone 0.48mm

(without cabinet)

18. Fix the XBV, XCV, APH, TLH and two 6-pole magnets with white paint.

19. Fix the DY spacer using RTV.

20. Fix the V. STA with white paint.

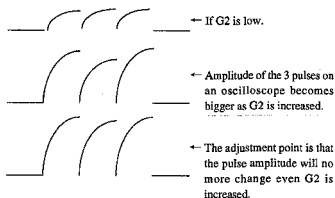
However, apply very small amount of white paint so that the white paint must not go into inside the adjustment control.

4-6. G2 Adjustment

1. Input the 625 monoscope signal.
2. Connect an oscilloscope probe to TP22 IK of the A board.
3. Enter the service mode. (item No. 1)
4. Adjust G2 so that amplitude of the 3 pulses on an oscilloscope is saturated respectively. (Refer to the illustration.)
5. Write the data.

Note 1: If saturated, the pulse amplitude will no more change even G2 is increased.

Note 2: Be careful not to increase G2 too much after saturated.



4-7. White Balance Adjustment

1. Input the 625 gray scale signal having 20-step gray scales (without burst) using the LINE A input.
2. Set the CONTRAST to 0% and BRIGHTNESS to 50% (center detent position).
3. Press MENU to select COLOR TEMP SELECT then select 6500K, and exit the MENU.
4. Enter the service mode. (item No. 183)

item No.	item			DATA
171	6500K	RED	BIAS	100
172	6500K	GREEN	BIAS	100
173	6500K	BLUE	BIAS	100
174	6500K	RED	GAIN	150
175	6500K	GREEN	GAIN	150
176	6500K	BLUE	GAIN	150
177	5600K	RED	BIAS	100
178	5600K	GREEN	BIAS	100
179	5600K	BLUE	BIAS	100
180	5600K	RED	GAIN	150
181	5600K	GREEN	GAIN	150
182	5600K	BLUE	GAIN	150
183	SUB. BRIGHT			64

Initial data table

Note: Items No. 171, 174, 177 and 180 are fixed.

5. Adjust the SUB BRIGHT so that the steps between 0 and 5 IRE are cut-off and the step higher than 10 IRE illuminate a little.
 6. Write the data.
 7. Input the 625 all white signal (without burst) from the LINE A.
 8. Set the CONTRAST to 0% and BRIGHTNESS to 50% (center detent position).
 9. Adjust luminance of the all white signal so that brightness of the CRT display is 3 nits.
- Note: After brightness is adjusted to 3 nits, never touch the BRIGHTNESS controls.
10. Advance to items No. 172 then to 173.
 11. Adjust
6500K GREEN BIAS and
6500K BLUE BIAS

so that the 6500K white balance (cut-off side) satisfies the specification as shown below. However, fix the RED and do not move.

• Specification:

6500K ± 8MPCD

Note: The white balance at the cut-off side is adjusted at 3 nits.

12. Write the data.

13. Adjust luminance of the all white signal to 100IRE at CONTRAST 50% and BRIGHTNESS 50%.

14. Advance to items No. 175 then to 176.

15. Adjust the following items until the white balance (high light side) at 6500K satisfies the specification below:
6500K GREEN GAIN
6500K BLUE GAIN.

• Specification:
6500K + 8MPCD

16. Write the data.

17. Repeat the above steps from 8 to 16 until the specification at the cut-off and high light sides is satisfied at the same time.

18. Exit the service mode.

19. Press the MENU button, and select COLOR TEMP SELECT.
Select 6500K and exit the MENU.

20. Perform the same adjustment as the steps from 9 to 17 to the following items:

item No. 178, 179, 181, 182
6500K GREEN BIAS
6500K BLUE BIAS
6500K GREEN GAIN
6500K BLUE GAIN

• Specification:
6500K + 8MPCD

Note: The white balance at the cut-off side is adjusted at 3 min.

21. Exit the service mode.

22. Keep pressing the MENU button for 3 seconds or longer to enter the USER SERVICE menu.

23. Select the USER1 COLOR TEMP ADJ.
Select then COPY 6500K --> USER1. Move the cursor to COPY and press the ENTER button.

Note: Copy the 6500K to the USER1.

24. After confirming that the color temperature of the screen changes, press the MENU button twice to return to the USER SERVICE menu display.

25. Select the USER2 COLOR TEMP ADJ.
Select then COPY 6500K --> USER2. Move the cursor to COPY and press the ENTER button.

Note: Copy the 6500K to the USER2.

26. After confirming that the color temperature of the screen changes, press the MENU button several times to exit from the USER SERVICE menu display.

27. Press the MENU button to enter the MENU display and select COLOR TEMP SELECT. Select then 6500K and exit the MENU display.

4-8. SUB BRIGHTNESS Adjustment

Connect the input signal to LINE A connector.

1. Input the 625 monoscope signal.
2. Set the CONTRAST to minimum and BRIGHTNESS to 50% (center detent position).
3. Enter the service mode. (item No. 183)
4. Adjust the SUB BRIGHT
so that the 10IRE illuminate a little and 0IRE is cut off.
5. Write the data.

4-9. SUB CONTRAST Adjustment

Connect the input signal to LINE A connector.

Note: N/S : NORMAL SCAN
U/S : UNDER SCAN

item No.	item	DATA
184	4:3 NORMAL SUB. CONTRAST	200
185	4:3 UNDER SUB. CONTRAST	170
186	16:9 NORMAL SUB. CONTRAST	160
187	16:9 UNDER SUB. CONTRAST	140

Initial data table

1. Input the 625 all white signal (100IRE).
2. Set a color analyzer or luminance meter on CRT and measure the luminance. (Take note of the measured value.)
3. Set the scan size to 4:3 U/S.
4. Enter the service mode. (item No. 185)
5. Adjust the 4:3 UNDER SUB CONTRAST
so that the luminance at the 4:3 U/S mode equals to the luminance at 4:3 N/S mode.

6. Set the scan size to 16:9 N/S.
7. Advance to item No. 186.
8. Adjust the
16:9 NORMAL SUB CONTRAST
so that the luminance at the 16:9 N/S mode equals to the
luminance at 4:3 N/S mode.
9. Set the scan size to 16:9 U/S.
10. Advance to item No. 187.
11. Adjust the
16:9 UNDER SUB CONTRAST
so that the luminance at the 16:9 U/S mode equals to the
luminance at 4:3 N/S mode.
12. Write the data.
13. Set the scan size to 4:3 N/S.

4-10. +B Power Line Check

1. Receive the PAL monoscope signal.
2. Confirm that the +B power line satisfies the specification.
+B 115±5V

4-11 HV. REF Adjustment

Adjust the HV. REF (TP3006) to satisfy the specification.
Write the data after adjustment.
Re-adjust the focus.

No. 190 REF. DA 6.480±0.003V

4-12 HV. PROT. REF Adjustment

Adjust the HV. PROT. REF (TP3006) to satisfy the specification.
Write the data after adjustment.
Re-adjust the focus.

No. 189 PROT. DA 10.460 $\begin{smallmatrix} +0.000 \\ -0.260 \end{smallmatrix}$ V

4-13 HV. PROT Check

Confirm that the raster disappears when 10.472 V is applied to the PROT (CN3008 pin-5). Turn off the main power of the set then turn on again.

Note: This is to confirm that the protector works at HV=30kV.

4-14 IK. PROT Check

Remove all input signals. Connect a constant current source to TP3009 (ABL) so that the current below is subtracted from TP3009. Confirm that the protector works and the raster disappears. Turn off the main power of the set then turn on again.

Constant current source -2.0mA

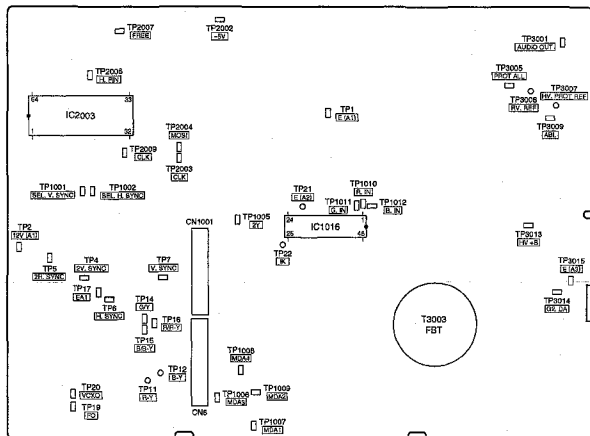
Note: The (-) terminal of the current load must be connected to the voltage of -5 V or less.

SECTION 5

CIRCUIT ADJUSTMENTS

5-1. A BOARD ADJUSTMENT

A BOARD -- COMPONENT SIDE --



I. Preparation

- * The signal which are input in the following adjustment items must have the signal amplitude as shown in the signal specification table below.

• Signal Specification Table

Signal		Signal Contents	Specified Level p-w
VIDEO (Composite Y/C)	NTSC	100% white (Y)	0.714 [V]
		75% white (Y)	0.536 [V]
	PAL	100% white (Y)	0.700 [V]
		75% white (Y)	0.525 [V]
COMPONENT	N10	100% white (Y)	0.700 [V]
		75% white (Y)	0.525 [V]
	SMPTE	100% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.700 [V]
		75% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.525 [V]
	Double Speed	100% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.525 [V]
		75% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.525 [V]
	HD (BTA S-001)	100% white (Y)	0.714 [V]
		75% white (Y)	0.536 [V]
R G B	BETACAM	100% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	1.008 [V]
		75% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.756 [V]
		100% white (R, G, B)	0.700 [V]
		75% white (R, G, B)	0.700 [V]
		100% white (R, G, B)	0.700 [V]
		75% white (R, G, B)	0.700 [V]

II. G2 Adjustment

Connect the input signal to LINE A connector.

1. Input the PAL gray scale signal.
2. Set the CONT and BRT controls to the center click positions.
3. Enter the Service Mode (item No. 1).
4. Adjust G2 to obtain an appropriate brightness on screen.
5. Write the data.

III. Horizontal Oscillating Frequency Adjustment

1. PAL F0 Adjustment

1. After turning on the power for five minutes or longer, input the 625 monoscope signal.
2. Set the CONT and BRT controls to the center click positions.
3. Enter the Service Mode (item No. 11, 12, 15, 17).
4. Adjust the following items coarsely such that a picture on display does not show jitter.

PAL 4:3 N/S H. OSC

PAL 4:3 N/S H. SIZE

PAL 4:3 N/S H. KEY

PAL 4:3 N/S H. PIN

5. Apply DC +5V to +9V to TP2007 FREE to enter the free run mode.
6. Connect a frequency counter to TP3004 HD and adjust PAL 4:3 N/S H. OSC until the following specifications are satisfied.

• Specification:

H. OSC: $31.5^{+0.4}_{-0}$ kHz

7. Remove the external DC power supply.
8. Write the data.



H. OSC: low



H. OSC: optimum



H. OSC: high

Note: If an image on display is doubled when the external DC power supply is removed, increment data by +1 or +2 and write the data.

2. 1125 F0 Adjustment

1. Input the HD (Japan) monoscope signal.
2. Perform the same adjustment as item 1. PAL F0 Adjustment to the following adjustment controls.

item No. 101, 102, 105, 106

1125 N/S H. OSC

1125 N/S H. SIZE

1125 N/S H. PIN

1125 N/S H. KEY

• Specification:

H. OSC: $33.75^{+0.4}_{-0}$ kHz

Note: If an image on display is doubled or top of an image is bent to the left when the external DC power supply is removed, increment data by +1 or +2 and write the data.

3. FREE-PAL F0 Adjustment

1. After turning on the power for five minutes or longer, remove all the input signals.
2. Set the CONT and BRT controls to the center click positions.
3. Enter the Service Mode (item No. 201).
4. Set the value of the AGING MODE to "1".
5. item No. 2, 3, 6, 7
6. Adjust the following items coarsely such that a picture on display does not show jitter.
FREE-PAL H. OSC
FREE-PAL H. SIZE
FREE-PAL H. KEY
FREE-PAL H. PIN
7. Connect a frequency counter to TP3004 HD and measure frequency. (Take note the measured value.)
8. Apply DC +5V to +9V to TP2007 FREE to enter the free run mode.
9. Adjust FREE-PAL H. OSC until the following specifications are satisfied.

• Specification:

H. OSC: $33.75^{+0.4}_{-0}$ kHz

10. Advance to the item No. 201 and set the value of the AGING MODE to "0".
11. Write the data.

Note: If an image on display is doubled or top of an image is bent to the left when the external DC power supply is removed, increment data by +1 or +2 and write the data.

IV. Focus Adjustment

Connect the input signal to LINE A connector.

1. Input the 625 monoscope signal.
2. Adjust the controls of the FBT (fly-back transformer) T3003 **FOCUS1, FOCUS2** until an optimum focused image is obtained on entire display.

V. Deflection System Adjustment

Connect the input signal to LINE A connector.

1. Deflection System Check

1. Input the 625 monoscope signal.
2. Enter the Service Mode.
3. Try to adjust item No. 12 to 26 respectively and check the result on display. (Never write the data after adjustment.)
4. Select the underscan mode (referred to as U/S hereafter).
5. Try to adjust item No. 27 to 33 respectively and check the result on display. (Never write the data after adjustment.)
6. Select the 16 : 9 normal scan mode (referred to as N/S hereafter).
7. Try to adjust item No. 34 to 38 respectively and check the result on display. (Never write the data after adjustment.)
8. Select the 16 : 9 U/S.
9. Try to adjust item No. 39 to 43 respectively and check the result on display. (Never write the data after adjustment.)
10. Select the 4 : 3 N/S.
11. Read the data.

2. Vertical Deflection Rough Adjustment

1. Input the 625 monoscope signal.
2. Set the CONT and BRT controls to the center click positions.
3. Enter the Service Mode (item No. 19).
4. Adjust PAL 4:3 N/S V SIZE until the vertical picture size is 11 divisions.
5. Select then item No. 22 ~ 23.
Adjust
PAL 4:3 N/S V LIN BAL
PAL 4:3 N/S V LIN LIN to adjust roughly the vertical linearity.
6. If vertical size becomes other than 11 divisions, select item No. 19 again and adjust PAL 4:3 N/S V SIZE until the vertical picture size is 11 divisions.
7. Write the data.

V. LIN. BAL



V. LIN



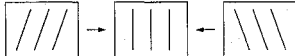
3. Horizontal Deflection Rough Adjustment

1. Input the 625 monoscope signal.
2. Set the CONT and BRT controls to the center click positions.
3. Enter the Service Mode (item No. 12).
4. Adjust PAL 4:3 N/S H SIZE until the horizontal picture size is 15 divisions.
5. Select then item No. 15 ~ 18.
Adjust
PAL 4:3 N/S H KEY
PAL 4:3 N/S H KEY BAL
PAL 4:3 N/S H PIN
PAL 4:3 N/S H PIN BAL to adjust roughly the horizontal deflection system.
6. If horizontal size becomes other than 11 divisions, select item No. 12 again and adjust PAL 4:3 N/S H SIZE until the horizontal picture size is 15 divisions.
7. Write the data.

H. KEY



H. KEY. BAL



H. PIN



H. PIN. BAL



V. Signal System Adjustment

1. Crystal Oscillator Adjustment

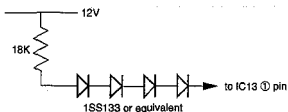
Note: This adjustment can be performed until the altanative specification that color swinging is stopped.

(A) Crystal 443

1. Input the PAL color bar signal.
2. Connect a frequency counter to TP19 FQ.
3. Enter the Service Mode (Item No. 129).
4. Fabricate the circuit shown below and connect the circuit to IC13 pin-1.
5. Adjust **PAL CRYSTAL** until the frequency counter reading fulfils the following specification.
6. Write the data.

• CRYSTAL 443

Specification: $4.433619 \pm 20\text{Hz}$



(When connecting the four diodes to pin-1, place the four diodes as close to pin-1 as possible, and make the wirings short.)

(B) Crystal 358

1. Input the NTSC color bar signal.
2. Connect a frequency counter to TP19 FQ.
3. Enter the Service Mode (Item No. 146).
4. Fabricate the circuit shown above and connect the circuit to IC13 pin-1.
5. Adjust **NTSC CRYSTAL** until the frequency counter reading fulfils the following specification.
6. Write the data.

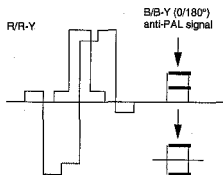
• CRYSTAL 358

Specification: $3.579545 \pm 20\text{Hz}$

2. PAL Color Decode Adjustment

(A) PAL HUE

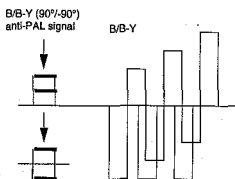
1. Input the PAL special (SP) color bar signal.
2. Connect an oscilloscope probe to TP16 R/R-Y.
3. Enter the Service Mode (Item No. 131).
4. Adjust **PAL HUE** until the B-Y anti-PAL signal waveform becomes "0".
5. Write the data



* Because the signal differs every 1H period, adjust so that average value becomes "0".

(B) PAL U-PHASE

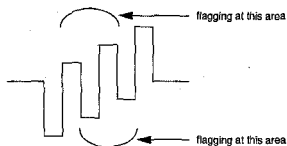
1. Input the PAL special (SP) color bar signal.
2. Connect an oscilloscope probe to TP15 B/B-Y.
3. Enter the Service Mode (Item No. 132).
4. Adjust **PAL U-PHASE** until the R-Y anti-PAL signal waveform becomes "0".
5. Write the data



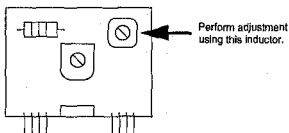
* Because the signal differs every 1H period, adjust so that average value becomes "0".

(C) PAL Line-Crawling Adjustment

1. Input the PAL SP color bar signal.
2. Connect an oscilloscope to TP15 B/B-Y.
3. Adjust the CP1 inductor until the flagging of the waveform as shown is minimized. Do not touch other adjustment control at this time.

**(D) Tracking Adjustment Between Phase and Line-Crawling**

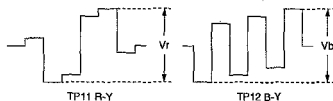
After the item (C) is adjusted, check that the adjustment value of items (A) and (B) have not changed. If they have changed, repeat steps (A), (B) and (C).

**3. PAL Color Level Adjustment**

Connect the input signal to the LINE A connector.

(A) PAL Color

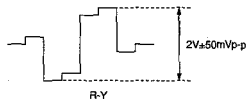
1. Input the PAL 100% color bar signal.
2. Observe TP11 R-Y and TP12 B-Y using an oscilloscope to find out which has the signal of smaller amplitude.
3. Enter the service mode (item No. 130)
4. Adjust the PAL COLOR until the signal having the smaller amplitude will have $1V \pm 100mV$ amplitude.
5. Write the data.



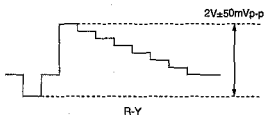
Make adjustment to obtain
min (Vr, Vb) = $1V \pm 100mV$

(B) PAL R-Y, DA1

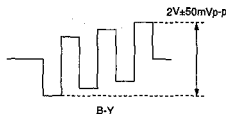
1. Input the PAL 100% color bar signal.
2. Connect an oscilloscope to TP16 R/R-Y.
3. Enter the service mode (item No. 133)
4. Adjust the PAL R-Y, DA1 until the signal has amplitude of $2V \pm 50mVp-p$.
5. Write the data.

**(C) PAL Y, DA1**

1. Input the PAL 100% color bar signal.
2. Connect an oscilloscope to TP14 G/Y.
3. Enter the service mode (item No. 134)
4. Adjust the PAL Y, DA1 until the signal has amplitude of $2V \pm 50mVp-p$.
5. Write the data.

**(D) PAL B-Y, DA1**

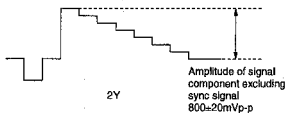
1. Input the PAL 100 % color bar signal.
2. Connect an oscilloscope to TP15 B/B-Y.
3. Enter the service mode (item No. 135)
4. Adjust the PAL B-Y, DA1 until the signal has amplitude of $2V \pm 50mVp-p$.
5. Write the data.



PVM-20M7MDE

(E) PAL Y, DA2

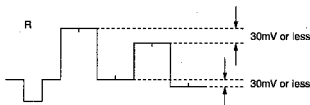
1. Input the PAL 100% color bar signal.
2. Connect an oscilloscope to TP1005 2Y.
3. Enter the service mode (item No. 137)
4. Adjust the PAL Y, DA2 until the signal has amplitude of $800 \pm 20 \text{mVp-p}$.
5. Write the data.



4. Matrix Adjustment

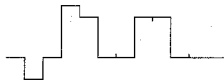
(A) R-In

1. Input the PAL 100% color bar signal.
2. Connect an oscilloscope to TP1010 R-IN.
3. Enter the service mode (item No. 139)
4. Adjust the PAL MDA1 until peaks of the signals have the same amplitude.
5. Write the data.



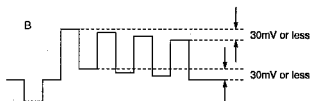
Note 1: If the required specification cannot be satisfied at the upper and lower sides of the waveform at the same time, adjust so that the upper side satisfies the requirement.

Note 2: If the waveform shown below appears with the 100% color bar input signal, change input to the 75% color bar signal.



(B) B-In

1. Input the PAL 100% color bar signal.
2. Connect an oscilloscope to TP1012 B-IN.
3. Enter the service mode (item No. 140)
4. Adjust the PAL MDA2 until peaks of the signals have the same amplitude.
5. Write the data.



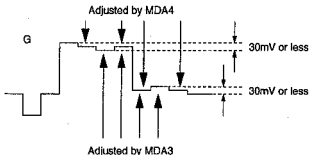
Note 1: If the required specification cannot be satisfied at the upper and lower sides of the waveform at the same time, adjust so that the upper side satisfies the requirement.

Note 2: If the waveform shown below appears with the 100% color bar input signal, change input to the 75% color bar signal.



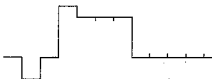
(C) G-In

1. Input the PAL 100% color bar signal.
2. Connect an oscilloscope to TP1011 G-IN.
3. Enter the service mode (item No. 141 and No. 142)
4. Adjust the PAL MDA3 and PAL MDA4 until peaks of the signals have the same amplitude.
5. Write the data.



Note 1: If the required specification cannot be satisfied at the upper and lower sides of the waveform at the same time, adjust so that the upper side satisfies the requirement.

Note 2: If the waveform shown below appears with the 100% color bar input signal, change input to the 75% color bar signal.



5. PAL Y/C Color Level Adjustment

Connect the input signal to the LINE B connector.

(A) PAL Y/C R-Y, DA1

1. Input the PAL 100% color bar signal.
2. Perform the same adjustment as section VI-3-(B) using item No. 143
PAL Y/C R-Y, DA1
3. Write the data.

(B) PAL Y/C Y, DA1

1. Input the PAL 100% color bar signal.
2. Perform the same adjustment as section VI-3-(C) using item No. 144
PAL Y/C Y, DA1
3. Write the data.

(C) PAL Y/C B-Y, DA1

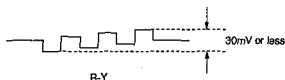
1. Input the PAL 100% color bar signal.
2. Perform the same adjustment as section VI-3-(D) using item No. 145
PAL Y/C B-Y, DA1
3. Write the data.

6. NTSC Color Demodulation Adjustment

Connect the input signal to the LINE A connector.

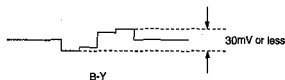
(A) NTSC HUE

1. Input the NTSC color bar signal.
(Input the B-Y component only. Turn off the R-Y and Y.)
2. Connect an oscilloscope to TP16 R/R-Y.
3. Enter the service mode (item No. 148)
4. Adjust NTSC HUE until the error component (B-Y) becomes a straight line.
5. Write the data.



(B) NTSC U-phase

1. Input the NTSC color bar signal.
(Input the R-Y component only. Turn off the B-Y and Y.)
2. Connect an oscilloscope to TP15 B/B-Y.
3. Enter the service mode (item No. 149)
4. Adjust NTSC U-PHASE until the error component (R-Y) becomes a straight line.
5. Write the data.



- (C) Repeat adjustments of steps (A) and (B) of previous subsection 6 until both of the two adjustments (A) and (B) have the best result (tracking adjustment).

7. NTSC Color Level Adjustment

Connect the input signal to the LINE A connector.

(A) NTSC COLOR

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(A) using item No. 147
NTSC COLOR
3. Write the data.

(B) NTSC R-Y, DA1

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(B) using item No. 150
NTSC R-Y, DA1
3. Write the data.

(C) NTSC Y, DA1

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(C) using item No. 151
NTSC Y, DA1
3. Write the data.

(D) NTSC B-Y, DA1

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(D) using item No. 152
NTSC B-Y, DA1
3. Write the data.

8. NTSC Y/C Color Level Adjustment

Connect the input signal to the LINE B connector.

(A) NTSC Y/C R-Y, DA1

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(B) using item No. 153
NTSC Y/C R-Y, DA1
3. Write the data.

(B) NTSC Y/C Y, DA1

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(C) using item No. 154
NTSC Y/C Y, DA1
3. Write the data.

(C) NTSC Y/C B-Y, DA1

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(D) using item No. 155
NTSC Y/C B-Y, DA1
3. Write the data.

9. Component Color Level Adjustment-1 (N10/SMPTE)

Connect the input signal to the RGB A or RGB B connector.

(A) Component N10 R-Y, DA1

1. Input the component (N10/SMPTE level) 100% color bar signal.
2. Perform the same adjustment as section VI-3-(B) using item No. 156
COMP N10 R-Y, DA1
3. Write the data.

(B) Component N10 Y, DA1

1. Input the component (N10/SMPTE level) 100% color bar signal.
2. Perform the same adjustment as section VI-3-(C) using item No. 157
COMP N10 Y, DA1
3. Write the data.

(C) Component N10 B-Y, DA1

1. Input the component (N10/SMPTE level) 100% color bar signal.
2. Perform the same adjustment as section VI-3-(D) using item No. 158
COMP N10 B-Y, DA1
3. Write the data.

10. Component Color Level Adjustment-2 (Betacam)

Connect the input signal to the RGB A or RGB B connector.

(A) Component Betacam R-Y, DA1

1. Input the component (Betacam level) 100% color bar signal.
2. Perform the same adjustment as section VI-3-(B) using item No. 159
COMP BETA R-Y, DA1
3. Write the data.

(B) Component Betacam B-Y, DA1

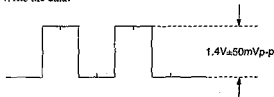
1. Input the component (Betacam level) 100% color bar signal.
2. Perform the same adjustment as section VI-3-(D) using item No. 160
COMP BETA B-Y, DA1
3. Write the data.

11. RGB Color Level Adjustment

Connect the input signal to the RGB A or RGB B connector.

(A) RGB R-Y, DA1

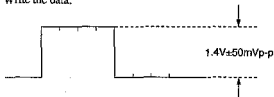
1. Input the RGB 100% color bar signal.
2. Connect an oscilloscope to TP16 R/R-Y.
3. Enter the service mode (item No. 161)
4. Adjust RGB R-Y, DA1 until amplitude of the waveform is 1.4V±50mVp-p.
5. Write the data.



Note: If sync is added to the signal, amplitude can be adjusted for 2V±50mVp-p including sync.

(B) RGB Y, DA1

1. Input the RGB 100% color bar signal.
2. Connect an oscilloscope to TP14 G/Y.
3. Enter the service mode (item No. 162)
4. Adjust RGB Y, DA1 until amplitude of the waveform is $1.4V \pm 50mVp-p$.
5. Write the data.



Note: If sync is added to the signal, amplitude can be adjusted for $2V \pm 50mV$ p-p including sync.

(C) RGB B-Y, DA1

1. Input the RGB 100% color bar signal.
2. Connect an oscilloscope to TP15 B/B-Y.
3. Enter the service mode (item No. 163)
4. Adjust RGB B-Y, DA1 until amplitude of the waveform is $1.4V \pm 50mVp-p$.
5. Write the data.



Note: If sync is added to the signal, amplitude can be adjusted for $2V \pm 50mVp-p$ including sync.

12. HD Component Matrix Adjustment

Connect the input signal to the RGB A or RGB B connector.

(A) 2 Component Y, DA2

1. Input the HD (BTA S-001: Japanese Hi-Vision signal) 100% color bar signal.
2. Perform the same adjustment as section VI-3-(E) using item No. 164
2COMP Y, DA2
3. Write the data.

(B) Component HD MDA1

1. Input the HD (BTA S-001: Japanese Hi-Vision signal) 100% color bar signal.
2. Perform the same adjustment as section VI-4-(A) using item No. 167
COMP HD MDA1
3. Write the data.

(C) Component HD MDA2

1. Input the HD (BTA S-001: Japanese Hi-Vision signal) 100% color bar signal.
2. Perform the same adjustment as section VI-4-(B) using item No. 168
COMP HD MDA2
3. Write the data.

(D) Component HD MDA3, MDA4

1. Input the HD (BTA S-001: Japanese Hi-Vision signal) 100% color bar signal.
2. Perform the same adjustment as section VI-4-(C) using item No. 169
item No. 170
COMP HD MDA3
COMP HD MDA4
3. Write the data.

(E) 2 Component MDA1

1. Input the double-speed component 100% color bar signal.
2. Perform the same adjustment as section VI-4-(A) using item No. 165
2COMP MDA1
3. Write the data.

(F) 2 Component MDA2

1. Input the double-speed component 100% color bar signal.
2. Perform the same adjustment as section VI-4-(B) using item No. 166
2COMP MDA2
3. Write the data.

5-2. G BOARD ADJUSTMENT**1. Checking the respective output lines**

1. Confirm that the following output lines satisfy the specifications described below.

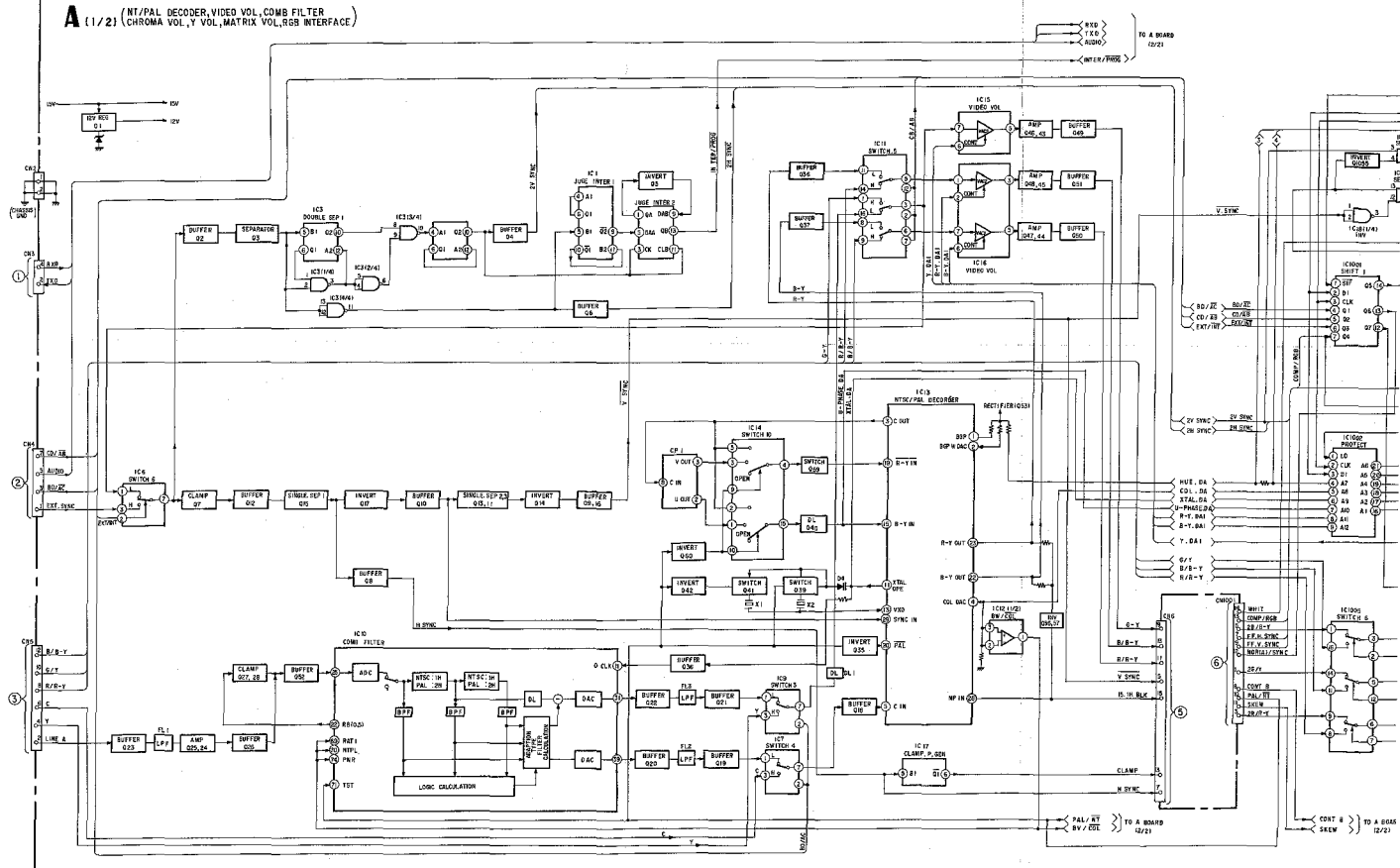
160V	16.2±5V
15V	15.5±0.8V
5V (A)	6±0.4V
5V (B)	5±0.4V
-15V	-14.5±0.6V

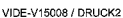
MEMO

[illegible]

SECTION 6 DIAGRAMS

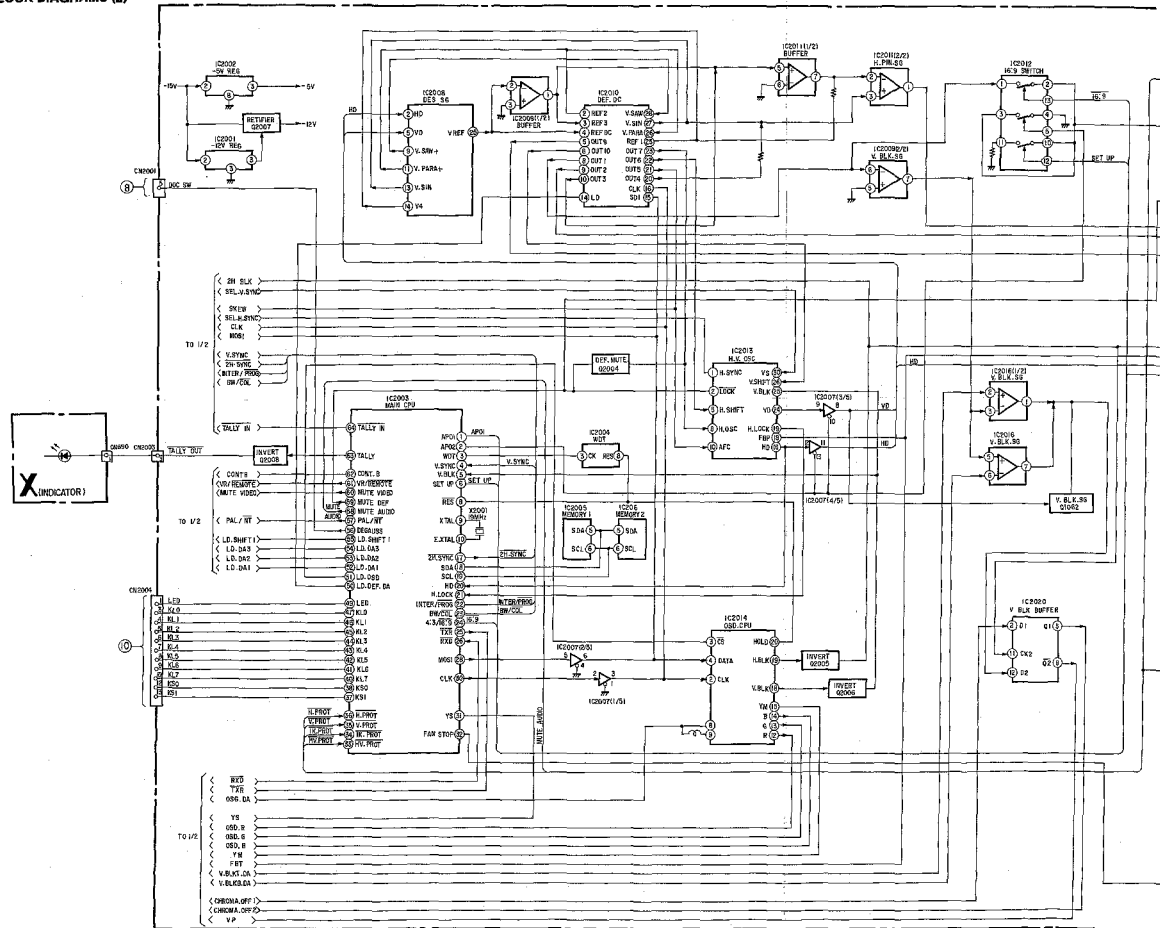
6-1. BLOCK DIAGRAMS (1)



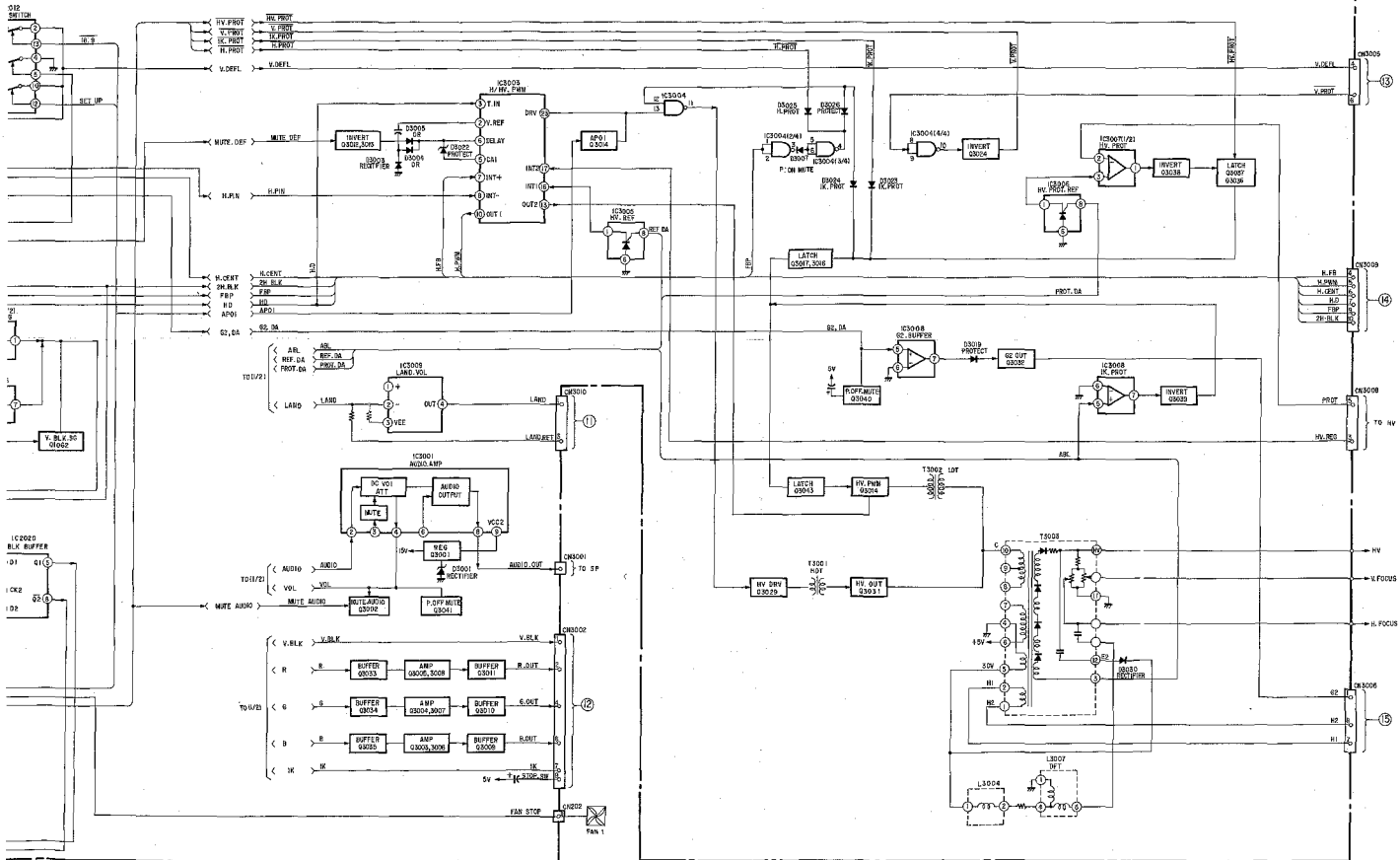


PVM-20M7MDE

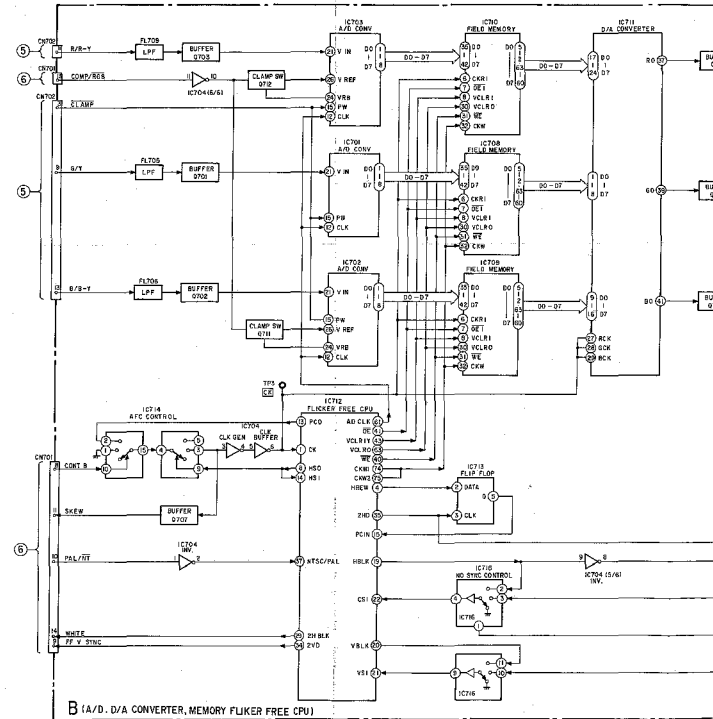
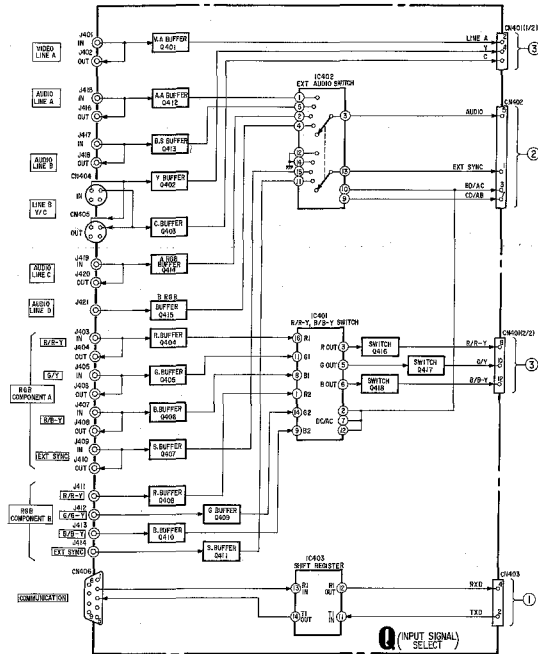
BLOCK DIAGRAMS (2)

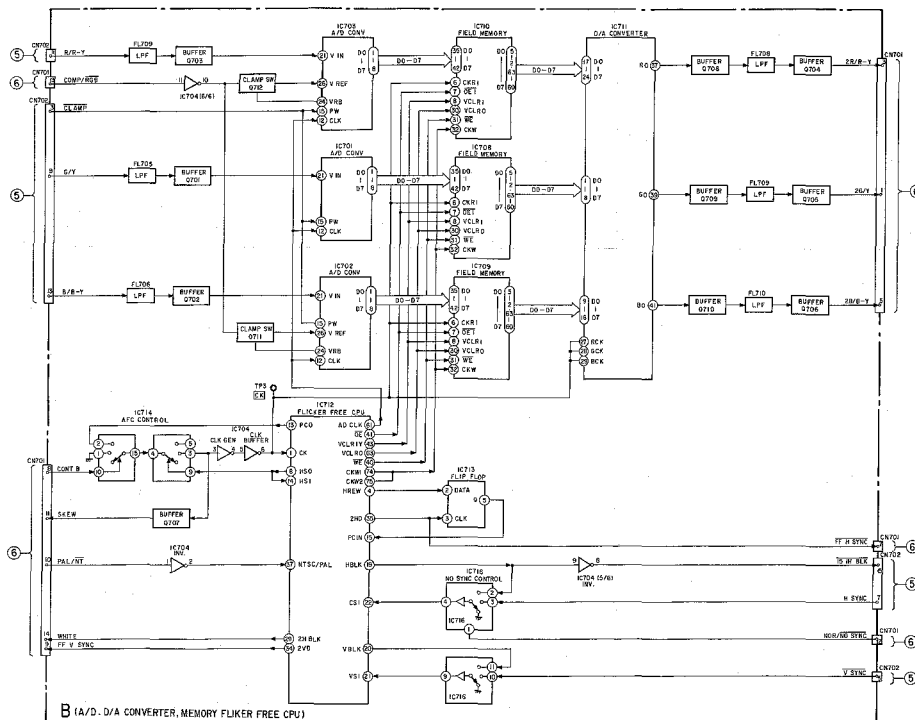


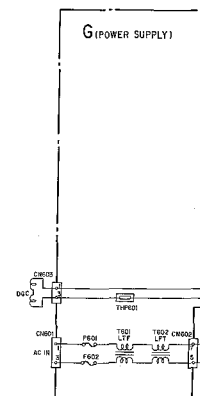
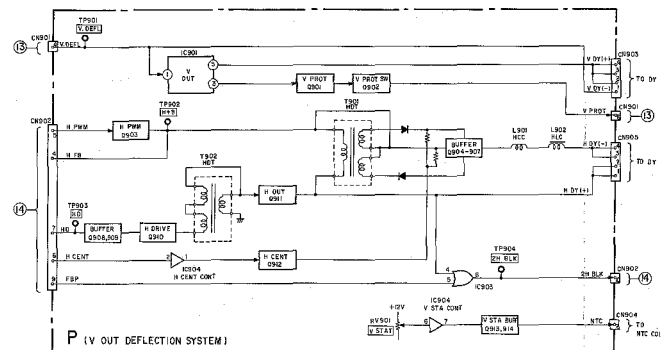
A (2/2) (MAIN CPU, H.V OSC, DEFLECTION DECODER.
AUDIO OUT, R.G.B OUT, HV OUT DEFLECTION SYSTEM.)



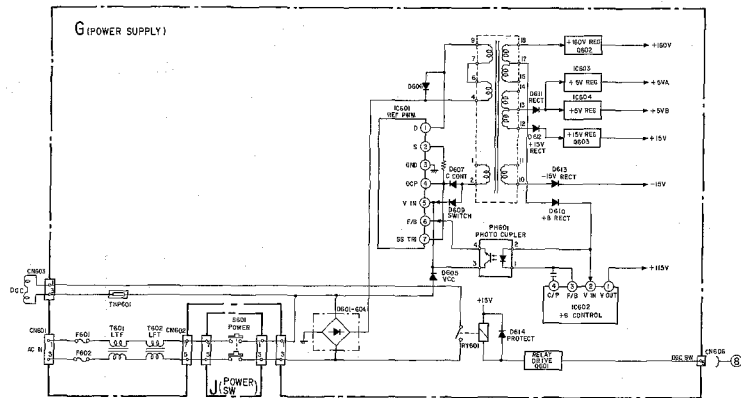
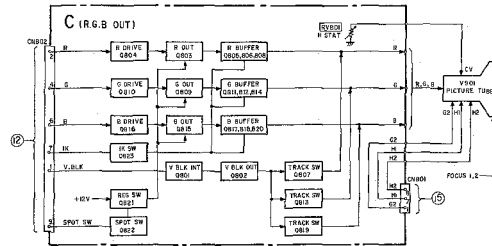
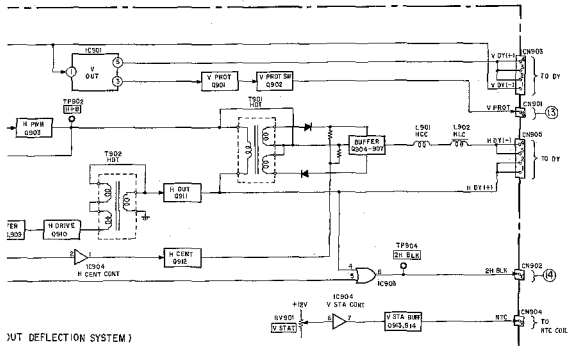
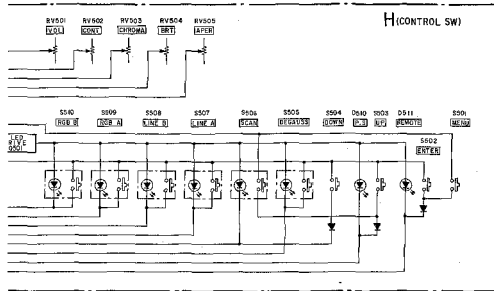
BLOCK DIAGRAMS (3)



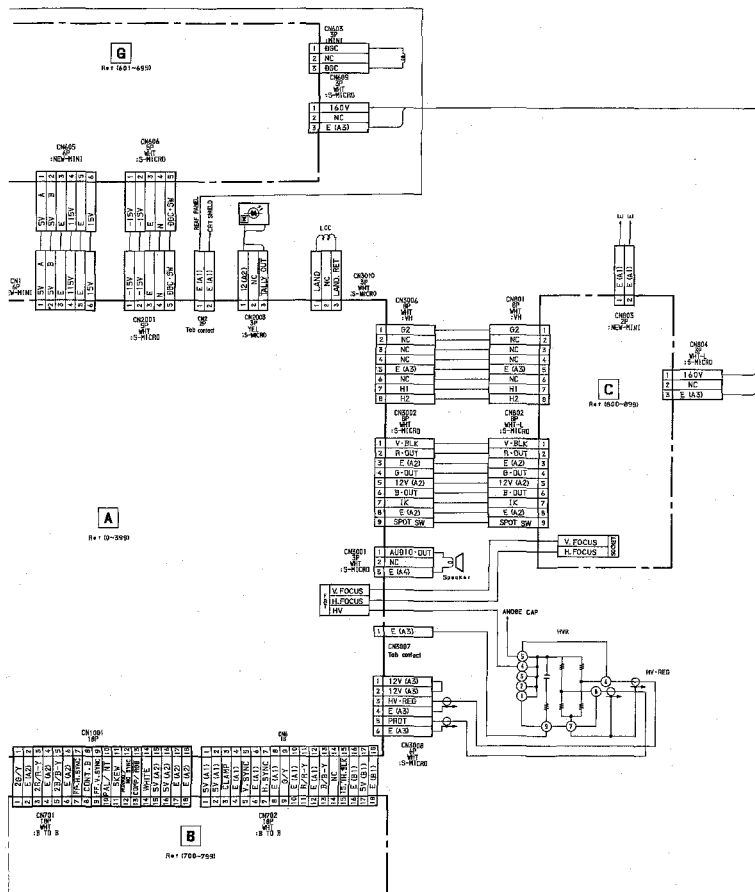


[illegible]

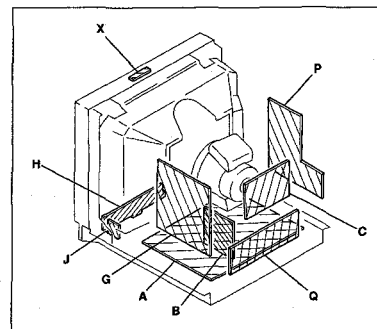
MS (4)



6-2. FRAME SCHEMATIC DIAGRAM



6-3. CIRCUIT BOARDS LOCATION



6-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note:

- All capacitors are in μF unless otherwise noted, pF: μpF 50WV or less are not indicated except for electrolytics.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms, 1/4W in resistance, 1/10W in chip resistance.
- $K\Omega=1000\Omega$, $M\Omega=1000K\Omega$
- \square : nonflammable resistor.
- \square : fusible resistor.
- \triangle : internal component.
- \square : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

- All voltage are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- \square : B + bus.
- \square : B - bus.
- \rightarrow : Signal path.
- No mark : with PAL color-bar signal is received or common voltage.
- For the respective voltage ratings in NTSC 3.58, S-VIDEO and ANALOG RGB modes, see the table.

Reference information

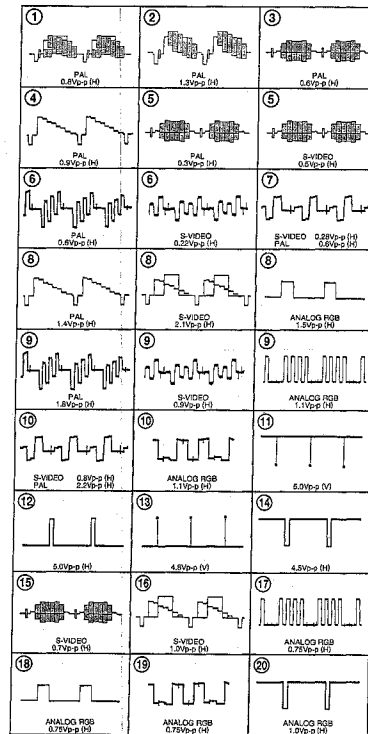
RESISTOR :	RN	METAL FILM
	RC	SOLID
	FPRD	NONFLAMMABLE CARBON
	FUSE	NONFLAMMABLE FUSIBLE
	RW	NONFLAMMABLE WIREWOUND
	RS	NONFLAMMABLE METAL OXIDE
	RB	NONFLAMMABLE CEMENT
COIL :	LF-SL	MICRO INDUCTOR
CAPACITOR :	TA	TANTALUM
	PS	STYROL
	PP	POLYPROPYLENE
	PT	MYLAR
	MPS	METALIZED POLYESTER
	MPP	METALIZED POLYPROPYLENE
	ALB	BIPOLAR
	ALT	HIGH TEMPERATURE
	ALR	HIGH RIPPLE

Note: The component identified by shading and mark Δ are critical for safety. Replace only with part number specified.

REF.	Pin No.	PAL	S-VIDEO	R.G.B	REF.	Pin No.	PAL	S-VIDEO	R.G.B
IC1	①	7.8	7.8	7.8	IC11	①	6.6	6.6	6.6
	②	4.8	4.9	4.6		②	0	0	4.6
	③	10.7	10.7	10.7		③	5.9	5.9	5.9
	④	4.8	4.8	4.6		④	5.9	5.9	5.9
IC2	⑤	7.1	7.1	7.1	IC12	⑤	6.6	6.6	6.6
	⑥	8.9	8.9	8.9		⑥	6.6	6.6	6.6
	⑦	7.1	7.1	7.1		⑦	6.6	6.6	6.6
	⑧	0	0	0		⑧	6.6	6.6	6.6
IC3	⑨	0.2	0.2	0.4	IC13	⑨	6.6	6.6	6.6
	⑩	8.9	8.9	8.9		⑩	6.6	6.6	6.6
	⑪	0	0	0		⑪	6.6	6.6	6.6
	⑫	0.2	0.2	0.4		⑫	6.6	6.6	6.6
IC4	⑬	7.7	7.7	7.2	IC14	⑬	2.3	2.3	0.9
	⑭	0.9	0.9	0.9		⑭	2.0	1.2	2.0
	⑮	4.8	4.8	5.4		⑮	2.3	2.9	2.9
	⑯	0.1	0.1	4.7		⑯	2.0	2.0	2.0
IC5	⑰	11.8	11.8	11.1	IC15	⑰	2.4	2.4	2.4
	⑱	11.8	11.8	7.8		⑱	2.4	2.4	1.0
	⑲	11.8	11.8	11.8		⑲	3.0	3.0	3.0
	⑳	11.9	11.9	11.9		㉑	3.0	3.0	3.0
IC6	㉒	0.1	0.1	0.1	IC16	㉒	4.3	4.3	4.8
	㉓	0.2	0.2	0.4		㉓	3.1	3.1	3.1
	㉔	0.1	0.1	0.1		㉔	3.0	3.0	3.0
	㉕	11.7	11.7	11.5		㉕	2.9	2.9	2.9
IC7	㉖	4.8	4.8	5.4	IC17	㉖	2.6	2.6	2.6
	㉗	0.9	0.9	0.9		㉗	3.4	3.4	3.4
	㉘	11.8	11.8	11.1		㉘	3.1	3.1	3.1
	㉙	0.1	0.1	0.7		㉙	3.0	3.0	3.0
IC8	㉚	11.8	11.8	11.1	IC18	㉚	0	1.6	1.6
	㉛	11.8	11.8	11.1		㉛	11.8	11.8	11.1
	㉜	0.1	0.1	4.7		㉜	2.2	2.2	2.2
	㉝	0.1	0.1	0.7		㉝	2.2	2.2	2.2
IC9	㉞	11.9	11.9	11.9	IC19	㉞	2.8	2.8	2.8
	㉟	10.7	10.7	10.7		㉟	4.1	4.1	4.1
	㊱	0.9	0.9	0.9		㊱	4.1	4.1	4.1
	㊲	6.7	6.7	6.7		㊲	3.0	3.0	3.0
IC10	㊳	0	0	4.8	IC20	㊳	2.8	2.8	2.8
	㊴	6.7	6.7	6.7		㊴	2.4	2.4	2.4
	㊵	6.0	6.0	6.0		㊵	2.8	2.8	2.8
	㊶	6.6	6.6	—		㊶	2.4	2.4	2.4
IC11	㊷	0	0	4.4	IC21	㊷	2.0	2.0	2.0
	㊸	5.3	5.3	—		㊸	2.0	2.0	2.0
	㊹	5.6	5.6	—		㊹	0	11.8	11.8
	㊺	5.3	5.3	—		㊺	0	11.8	11.8
IC12	㊻	0	4.4	—	IC22	㊻	2.8	2.2	2.2
	㊼	5.3	5.3	—		㊼	2.2	2.2	2.2
	㊽	5.6	5.6	—		㊽	2.2	2.2	2.2
	㊾	2.4	2.4	2.4		㊾	2.6	3.1	2.0
IC13	㊿	2.3	2.3	2.3	IC23	㊿	2.8	2.8	2.8
	①	2.3	2.3	2.3		①	2.8	2.8	3.2
	②	2.3	2.3	2.3		②	4.4	3.5	0
	③	0.5	0.5	0.5		③	2.2	2.2	2.2
IC14	④	1.2	0.7	0.7	IC24	④	2.2	2.2	2.2
	⑤	2.6	2.6	2.6		⑤	3.9	4.8	2.8
	⑥	0.5	0.1	0.1		⑥	2.8	2.8	2.8
	⑦	3.6	3.6	3.6		⑦	4.9	4.9	4.9
IC15	⑧	1.6	1.6	1.6	IC25	⑧	0.6	0.6	0.6
	⑨	1.1	1.1	1.1		⑨	4.9	4.9	4.9
	⑩	0.6	0.6	0.6		⑩	0.6	0.6	0.6
	⑪	3.7	3.7	3.7		⑪	0.6	0.6	0.6
IC16	⑫	1.2	1.2	1.2	IC26	⑫	4.3	4.3	4.3
	⑬	1.3	1.3	1.3		⑬	4.9	4.9	4.9
	⑭	4.8	0	0		⑭	4.9	4.9	4.9
	⑮	4.8	0	0		⑮	4.9	4.9	4.9
IC17	⑯	0	0	4.2	IC27	⑯	5.1	5.1	5.1
	⑰	0	0	0		⑰	11.1	11.1	11.1
	⑱	0	0	0		⑱	3.2	3.2	3.2
	⑲	0	0	0		⑲	11.2	11.2	11.2

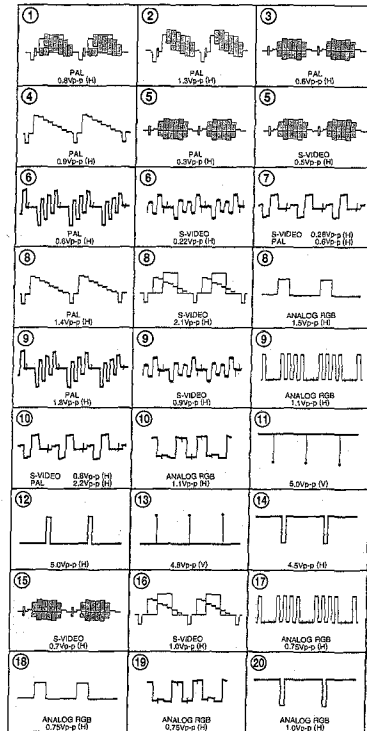
REF.	PAL	S-VIDEO	R.G.B	REF.	PAL	S-VIDEO	R.G.B		
Q2	E	3.4	3.4	3.8	Q26	E	4.5	4.5	4.7
	C	—	—	—		C	5.2	5.2	5.2
	B	4.0	4.0	4.5		E	1.2	1.2	1.2
	C	0.9	0.9	0.9		C	—	—	—
Q3	B	11.5	11.5	12.0	Q27	C	—	—	—
	E	0.1	0.1	0.1		B	0.6	0.6	0.6
	C	—	—	—		E	1.8	1.8	1.8
	E	0.1	0.1	0.1		C	—	—	—
Q4	E	0.1	0.1	0.1	Q28	C	—	—	—
	B	0	0	0		E	1.8	1.8	1.8
	C	—	—	—		C	—	—	—
	E	0	0	0		C	0	1.5	1.5
Q5	B	11.7	11.7	11.7	Q35	B	4.8	0	0
	E	4.3	4.3	4.3		E	2.8	2.8	2.8
	C	—	—	—		C	—	—	—
	E	4.9	4.9	4.9		B	2.2	2.2	2.2
Q6	E	4.5	4.5	5.1	Q36	E	2.8	2.8	2.8
	C	—	—	—		C	—	—	—
	B	4.7	4.7	4.7		B	2.2	2.2	2.2
	E	0.6	0.6	0.6		E	2.2	2.2	2.2
Q7	B	1.1	1.1	1.1	Q37	C	—	—	—
	E	11.2	11.2	11.2		B	2.8	2.8	2.8
	C	—	—	—		D	1.2	1.2	1.2
	B	11.7	11.7	11.7		C	2.7	0	0
Q8	E	10.2	10.2	10.2	Q39	S	2.1	2.3	2.2
	C	—	—	—		E	2.1	1.7	1.7
	B	10.8	10.8	10.8		C	9.7	10.2	10.2
	E	—	—	—		B	2.8	2.2	2.2
Q9	C	0.2	0.2	0.2	Q40	D	1.2	2.2	2.2
	B	11.5	11.6	11.9		G	0	2.9	2.9
	E	3.9	3.9	4.5		S	2.1	2.3	2.3
	C	—	—	—		C	—	—	—
Q10	B	4.5	4.5	5.1	Q42	C	0	4.5	4.5
	E	6.5	6.5	6.5		B	4.8	0	0
	C	—	—	—		E	—	—	—
	E	5.8	5.8	5.8		C	3.1	3.1	3.1
Q11	C	11.8	11.8	11.8	Q43	B	11.2	11.2	11.2
	B	0	0	0		E	—	—	—
	E	—	—	—		C	3.5	3.5	3.5
	C	—	—	—		B	11.3	11.3	11.3
Q12	E	1.6	1.6	1.6	Q45	C	3.5	3.5	3.5
	B	11.5	11.5	12.0		C	11.2	11.2	11.2
	E	4.9	4.9	4.9		E	1.8	1.8	1.8
	C	—	—	—		C	11.2	11.2	11.2
Q13	B	5.5	5.5	5.5	Q46	B	2.4	2.4	2.4
	E	0.6	0.6	0.6		E	1.8	1.8	1.8
	C	10.8	10.8	10.8		C	11.2	11.2	11.2
	B	1.1	1.1	1.1		B	2.4	2.4	2.4
Q14	E	3.4	3.4	3.4	Q47	E	1.8	1.8	1.8
	C	—	—	—		C	11.2	11.2	11.2
	B	4.0	4.0	4.0		B	2.4	2.4	2.4
	E	1.8	1.8	1.8		E	2.5	2.5	2.5
Q15	C	1.1	1.1	1.1	Q48	C	—	—	—
	E	1.3	1.3	1.3		B	3.1	3.1	3.1
	B	0.6	0.6	0.6		E	2.9	2.9	2.9
	E	1.7	1.7	1.7		C	—	—	—
Q16	C	1.0	1.0	1.0	Q50	B	3.5	3.5	3.5
	B	1.1	1.1	1.1		E	2.9	2.9	2.9
	E	1.0	1.0	1.0		C	—	—	—
	C	—	—	—		B	3.5	3.5	3.5
Q17	B	0.5	0.5	0.5	Q51	E	1.2	1.2	1.2
	E	4.3	4.3	4.3		C	—	—	—
	C	—	—	—		B	1.8	1.8	1.8
	E	4.9	4.9	4.9		E	0.7	0.7	0.7
Q18	E	—	—	—	Q56	B	4.1	4.1	4.1
	C	5.1	5.1	5.1		E	0.4	0.4	0.4
	B	11.1	11.1	11.1		C	—	—	—
	E	3.2	3.2	3.2		B	0.4	0.4	0.4
Q19	C	11.2	11.2	11.2	Q57	C	—	—	—
	B	3.8	3.8	3.8		B	0.4	0.4	0.4
	E	—	—	—					
	C	—	—	—					

A (1/4) BOARD



R.G.B	REF.	PAL	S-VIDEO	R.G.B
3.8	Q26	E 4.5 4.5 4.7		
—		C — — —		
4.5		B 5.2 5.2 5.2		
—		E 1.2 1.2 1.2		
0.9	Q27	C — — —		
12.0		B 0.6 0.6 0.6		
0.1		E 1.8 1.8 1.8		
0.1	Q28	C — — —		
—		B 1.8 1.8 1.8		
0	Q35	C 0 1.5 1.5		
11.7		B 4.8 0 0		
4.3		E 2.8 2.8 2.8		
—	Q36	C — — —		
4.9		B 2.2 2.2 2.2		
5.1		E 2.8 2.8 2.8		
—	Q37	C — — —		
4.7		B 2.2 2.2 2.2		
0.6		E 2.2 2.2 2.2		
—	Q38	C — — —		
1.1		B 2.8 2.8 2.8		
11.2		D 1.2 1.2 1.2		
—	Q39	C 2.7 0 0		
11.7		S 2.1 2.3 2.2		
10.2		E 2.1 1.7 1.7		
—	Q40	C 9.7 10.2 10.2		
10.8		B 2.8 2.2 2.2		
—		D 1.2 2.2 2.2		
0.2	Q41	G 0 2.9 2.9		
11.9		S 2.1 2.3 2.3		
4.5		E — — —		
—	Q42	C 0 4.5 4.5		
5.1		B 4.8 0 0		
6.5		E — — —		
—	Q43	C 3.1 3.1 3.1		
5.8		B 11.2 11.2 11.2		
—	Q44	C 3.5 3.5 3.5		
11.8		B 11.3 11.3 11.3		
0		E — — —		
1.5	Q45	C 3.5 3.5 3.5		
12.0		B 11.2 11.2 11.2		
4.9		E 1.8 1.8 1.8		
—	Q46	C 11.2 11.2 11.2		
5.5		B 2.4 2.4 2.4		
0.6		E 1.8 1.8 1.8		
10.8	Q47	C 11.2 11.2 11.2		
1.1		B 2.4 2.4 2.4		
3.4		E 1.8 1.8 1.8		
—	Q48	C 11.2 11.2 11.2		
4.0		B 2.4 2.4 2.4		
1.8		E 2.5 2.5 2.5		
—	Q49	C — — —		
1.1		B 3.1 3.1 3.1		
1.3		E 2.9 2.9 2.9		
0.6	Q50	C — — —		
1.7		B 3.5 3.5 3.5		
—		E 2.9 2.9 2.9		
—	Q51	C — — —		
1.0		B 3.5 3.5 3.5		
1.1		E 1.2 1.2 1.2		
—	Q52	C — — —		
0.5		B 1.8 1.8 1.8		
4.3		E — — —		
—	Q56	C 0.7 0.7 0.7		
4.9		B 4.1 4.1 4.1		
—		E 0.4 0.4 0.4		
5.1	Q57	C — — —		
11.1		B 0.4 0.4 0.4		
3.2		E — — —		
11.2		C — — —		
3.8		B — — —		

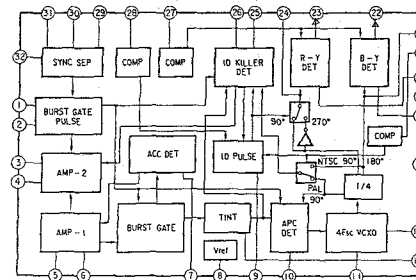
A (1/4) BOARD

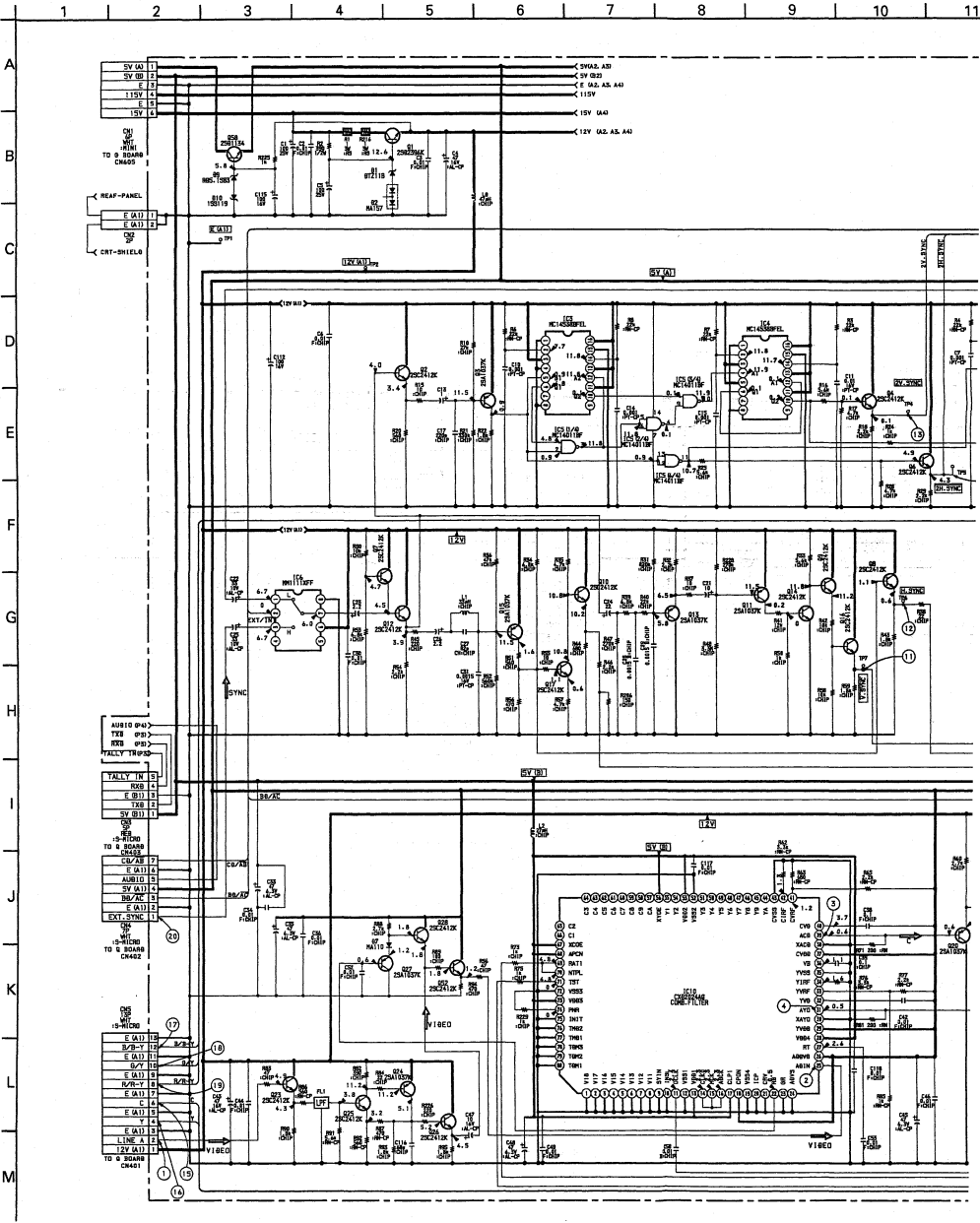


A (1/4) BOARD

IC1	JUGG INTER 1	Q22	BUFFER
IC2	JUGG INTER 2	Q23	BUFFER
IC3	DOUBLE SEP 1	Q24	AMP
IC4	DOUBLE SEP 2	Q25	AMP
IC5	INVERT	Q26	BUFFER
IC6	SW 3	Q27	BUFFER
IC7	SW 4	Q28	CLAMP
IC8	SW 3	Q29	INVERT
IC9	COMB FILTER	Q30	BUFFER
IC10	SW 5	Q31	BUFFER
IC11	SW 5	Q32	BUFFER
IC12	BW/COL	Q33	BUFFER
IC13	NTSC PAL DECODER	Q34	SW
IC14	SW 10	Q35	RELAY
IC15	VIDEO VOL	Q36	SW
IC16	VIDEO VOL	Q37	INVERT
IC17	CLAMP P GEN	Q38	AMP
Q1	+1.5V REG	Q39	AMP
Q2	BUFFER	Q40	AMP
Q3	SEPARATOR	Q41	AMP
Q4	BUFFER	Q42	AMP
Q5	INVERT	Q43	BUFFER
Q6	BUFFER	Q44	BUFFER
Q7	CLAMP	Q45	BUFFER
Q8	BUFFER	Q46	BUFFER
Q9	BUFFER	Q47	BUFFER
Q10	BUFFER	Q48	BUFFER
Q11	SINGLE SEP 3	Q49	BUFFER
Q12	BUFFER	Q50	BUFFER
Q13	SINGLE SEP 2	Q51	BUFFER
Q14	INVERT	Q52	BUFFER
Q15	SINGLE SEP 1	Q53	BUFFER
Q16	BUFFER	Q54	BUFFER
Q17	INVERT	Q55	BUFFER
Q18	BUFFER	Q56	BUFFER
Q19	BUFFER	Q57	BUFFER
Q20	BUFFER	Q58	BUFFER
Q21	BUFFER	Q59	BUFFER
D1	PROTECT	D2	PROTECT
D3	PROTECT	D4	PROTECT
D5	VARI C	D6	VARI C
D7	ZENNER	D8	PROTECT
D9	PROTECT	D10	PROTECT

A (1/4) BOARD IC13 M51279FP

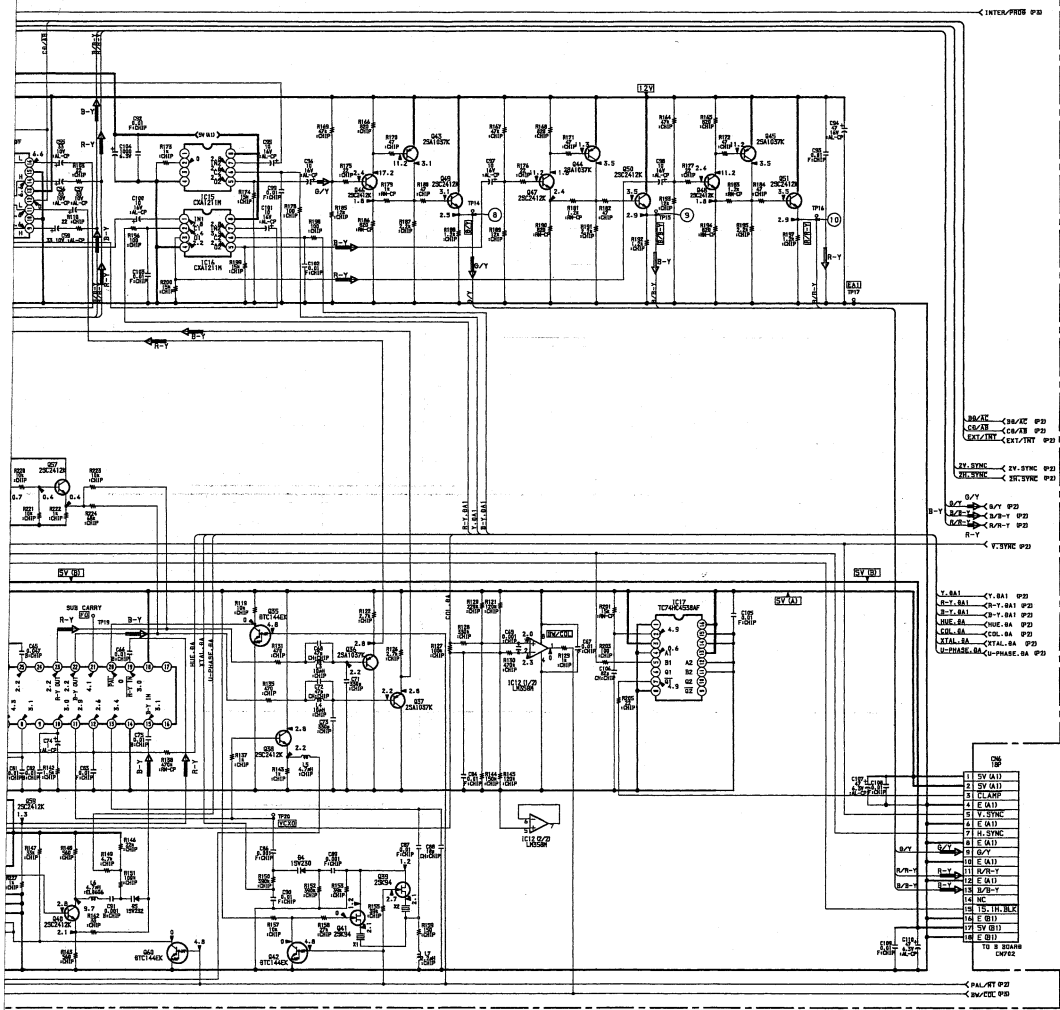


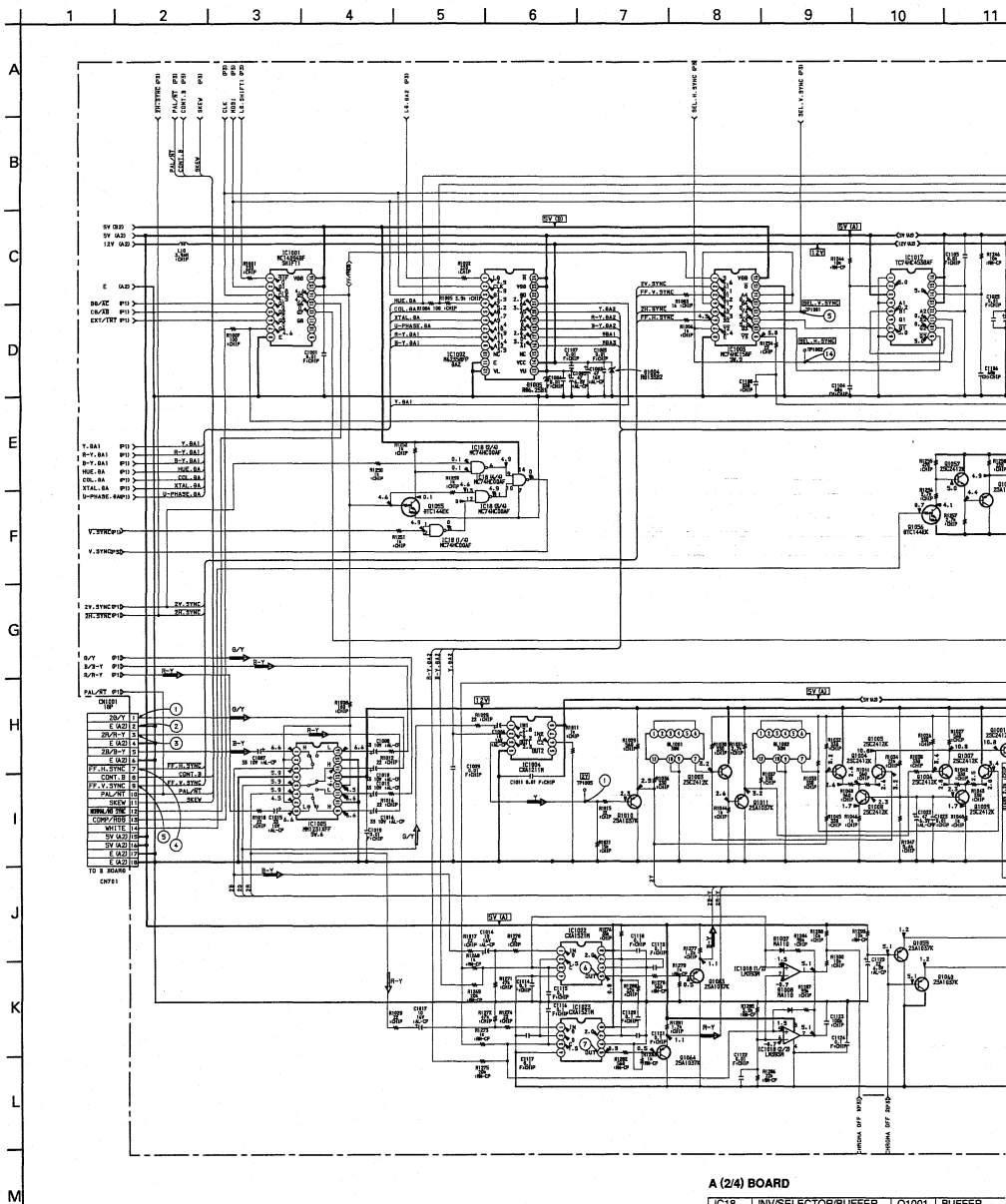


nos 8005/1



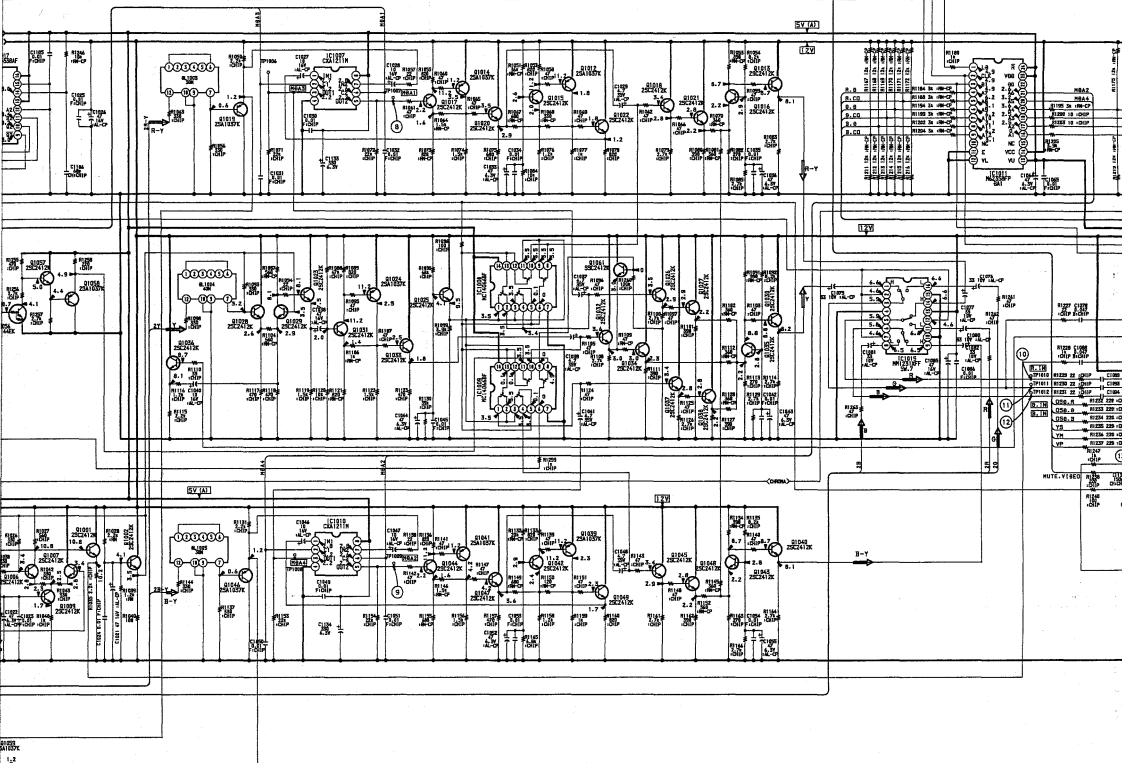
A (1/4)
(NT.PAL DECODER, VIDEO VOL.)
COMB FILTER



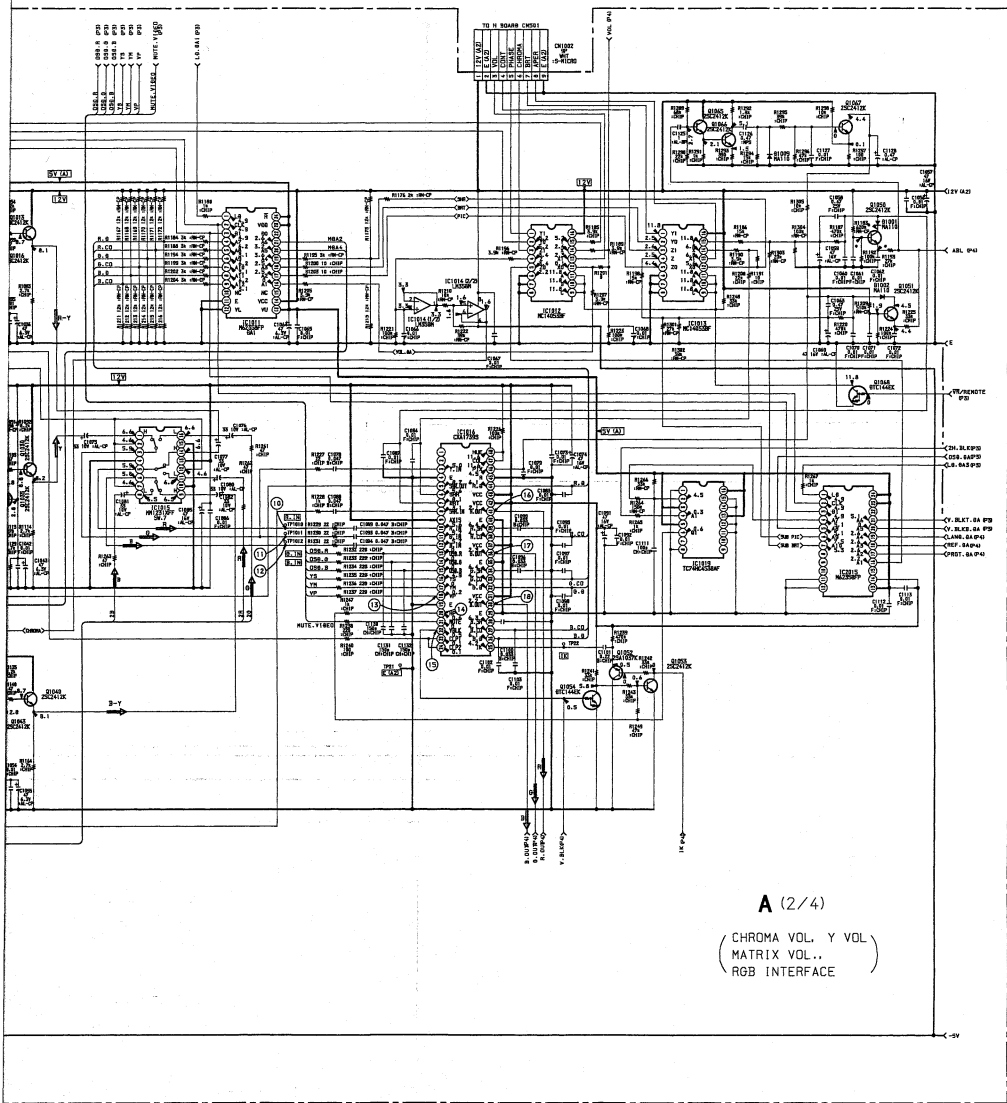


A (2/4) BOARD

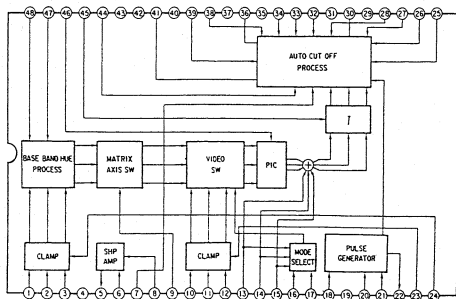
IC18	INV/SELECTOR/BUFFER	Q1001	BUFFER
IC1001	SHIFT 1	Q1002	BUFFER
IC1002	DA 2	Q1003	BUFFER
IC1003	SW 8	Q1004	BUFFER
IC1004	Y VOL	Q1005	AMP
IC1005	SW 6	Q1006	AMP
IC1007	MATRIX VOL	Q1007	BUFFER
IC1008	CLAMP	Q1008	SINK
IC1009	CLAMP	Q1009	SINK
IC1010	MATRIX VOL	Q1010	BUFFER
IC1011	DA 1	Q1011	BUFFER
IC1012	SW 12	Q1012	AMP
IC1013	SW 13	Q1013	BUFFER
IC1014	CHROMA BUFFER	Q1014	AMP
IC1015	SW 7	Q1015	AMP
IC1016	RGB INTERFACE	Q1016	MATRIX ADD
IC1017	CLAMP P GEN	Q1017	AMP
IC1018	MIN LUGS	Q1018	BUFFER
IC1019	H BLK GEN	Q1019	BUFFER
IC1022	CHROMA VOL	Q1020	BUFFER
IC1023	CHROMA VOL	Q1021	BUFFER
IC2015	DA 3	Q1022	BUFFER
		Q1023	BUFFER
		Q1024	AMP



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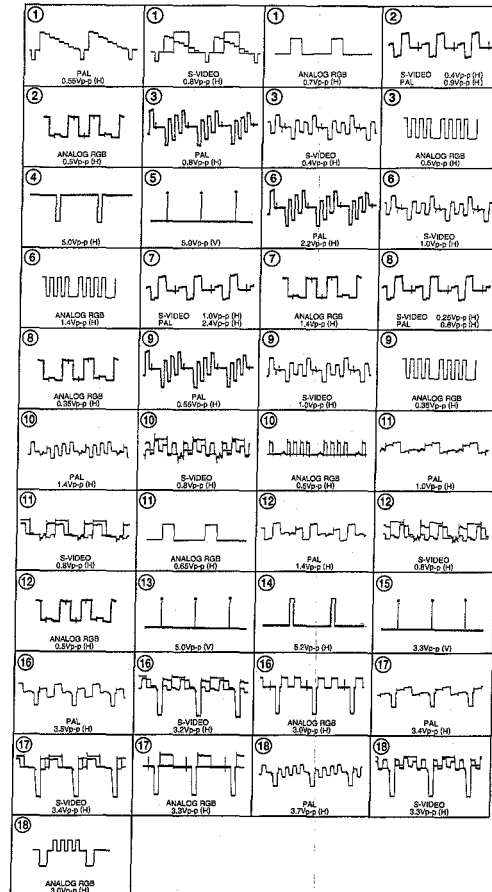
A (2/4) BOARD IC1016 CXA1739S



A (2/4) BOARD

REF.	PAL	S-VIDEO	R.G.B	REF.	PAL	S-VIDEO	R.G.B	REF.	PAL	S-VIDEO	R.G.B
Q1001	E 10.2	10.2	10.2	Q1024	E —	—	—	Q1047	E 3.6	3.6	3.6
C —	—	—	—	C 2.5	2.5	2.5	—	C —	—	—	—
B 10.8	10.8	10.8	—	B 11.2	11.2	11.2	—	B 4.2	4.2	4.2	—
E 3.5	3.5	3.5	—	E 3.5	3.5	3.5	—	E 2.2	2.2	2.2	—
Q1002	C —	—	—	Q1025	C —	—	—	Q1048	C —	—	—
B 4.1	4.1	4.1	—	B 4.1	4.1	4.1	—	B 2.8	2.8	2.8	—
E 2.6	2.6	2.6	—	E 2.9	2.9	2.7	—	E 1.7	1.7	1.7	—
Q1003	C —	—	—	Q1026	C —	—	—	Q1049	C —	—	—
B 3.2	3.2	3.2	—	B 3.5	3.5	3.3	—	B 2.3	2.3	2.3	—
E 2.6	2.6	2.6	—	E 2.2	2.2	2.1	—	E * *	* *	* *	—
Q1004	C —	—	—	Q1027	C —	—	—	Q1050	C —	—	—
B 3.2	3.2	3.2	—	B 2.9	2.9	2.7	—	B * *	* *	* *	—
E 2.6	2.6	2.6	—	E 2.6	2.6	2.6	—	E 4.4	4.4	4.4	—
Q1005	C 10.8	10.8	10.8	Q1028	C —	—	—	Q1051	C 4.5	4.5	4.5
B 3.2	3.2	3.2	—	B 3.2	3.2	3.2	—	B 1.9	1.9	1.9	—
E 2.8	2.8	2.8	—	E 2.9	2.9	2.9	—	E 0.5	2.3	0.5	—
Q1006	C 10.8	10.8	10.8	Q1029	C 8.1	8.1	8.1	Q1052	C —	—	—
B 3.4	3.4	3.4	—	B 3.5	3.5	3.5	—	B 0	2.8	0	—
E 2.8	1.6	2.8	—	E 8.2	8.2	8.2	—	E —	—	—	—
Q1007	C —	—	—	Q1030	C —	—	—	Q1053	C 0	0	0
B 3.4	2.3	3.4	—	B 8.8	8.8	8.8	—	B 0.6	0.6	0.6	—
E 1.7	1.7	1.7	—	E 1.4	1.4	1.4	—	Q1054	C 5.8	5.8	5.8
Q1008	C 2.6	2.1	2.1	Q1031	C 11.2	11.2	11.2	B 0.5	0.5	0.5	—
B 2.3	2.3	2.3	—	B 2.0	2.0	2.0	—	E —	—	—	—
E 1.7	2.8	1.7	—	E 3.0	3.0	3.0	—	Q1055	C 0.1	0.1	0.1
Q1009	C 2.5	11.8	2.5	Q1032	C —	—	—	B 4.6	4.6	4.6	—
B 2.3	3.4	2.3	—	B 3.6	3.6	3.6	—	E —	—	—	—
E 2.9	2.9	2.9	—	E 1.8	1.8	1.8	—	Q1056	C 4.1	4.1	4.1
Q1010	C —	—	—	Q1033	C —	—	—	B 0.7	0.7	0.7	—
B 2.3	2.2	2.2	—	B 2.5	2.5	2.5	—	E 4.4	4.4	4.4	—
E 3.2	3.2	3.2	—	E 2.3	2.3	2.3	—	Q1057	C —	—	—
Q1011	C —	—	—	Q1034	C —	—	—	B 5.0	5.0	5.0	—
B 2.6	2.6	2.6	—	B 3.8	3.0	3.0	—	E 4.9	4.9	4.9	—
E —	—	—	—	E 2.2	2.2	2.2	—	Q1058	C —	—	—
Q1012	C 1.8	1.8	1.8	Q1035	C —	—	—	B 4.4	4.4	4.4	—
B 11.2	11.2	11.2	—	B 2.8	2.8	2.8	—	E 1.2	1.2	1.2	—
E 8.1	8.2	8.4	—	E 8.1	8.1	8.1	—	Q1059	C —	—	—
Q1013	C —	—	—	Q1036	C —	—	—	B 5.1	5.1	5.1	—
B 8.7	8.7	9.1	—	B 8.7	8.7	8.7	—	E 1.2	1.2	1.2	—
E —	—	—	—	E 2.8	2.8	2.8	—	Q1060	C —	—	—
Q1014	C 3.5	3.5	3.5	Q1037	C —	—	—	B 5.1	5.1	5.1	—
B 11.2	11.2	11.2	—	B 3.4	3.4	3.4	—	E 3.0	3.0	3.0	—
E 2.0	2.0	2.0	—	E 2.2	2.2	2.2	—	Q1061	C —	—	—
Q1015	C 11.2	11.2	11.2	Q1038	C —	—	—	B 0	0	0	—
B 2.6	2.6	2.6	—	B 2.8	2.8	2.8	—	E 1.1	1.1	1.1	—
E 2.2	2.2	2.2	—	E —	—	—	—	Q1063	C —	—	—
Q1016	C 8.7	8.9	9.1	Q1039	C 2.3	2.3	2.3	B 0.5	0.5	0.5	—
B 2.9	2.9	2.9	—	B 11.2	11.2	11.2	—	E 1.1	1.1	1.1	—
E 1.6	1.4	1.7	—	E 8.1	8.1	8.5	—	Q1064	C —	—	—
Q1017	C 11.2	11.2	11.2	Q1040	C —	—	—	B 0.5	0.5	0.5	—
B 2.2	2.2	2.2	—	B 8.7	8.7	9.1	—	E 2.1	1.5	2.1	—
E 2.8	2.8	2.8	—	E —	—	—	—	Q1065	C —	—	—
Q1018	C —	—	—	Q1041	C 4.2	4.2	4.2	B 2.7	2.7	2.7	—
B 3.4	3.4	3.4	—	B 11.2	11.2	11.2	—	E 1.5	1.5	1.5	—
E 1.2	1.2	1.2	—	E 2.4	2.4	2.4	—	Q1066	C 5.1	5.1	5.1
Q1019	C —	—	—	Q1042	C 11.2	11.2	11.2	B 2.1	2.1	2.1	—
B 0.6	0.6	0.6	—	B 2.9	2.9	3.4	—	E 0.1	0.1	0.1	—
E 2.9	2.9	2.9	—	E 2.2	2.2	2.2	—	Q1067	C 4.4	4.4	4.4
Q1020	C —	—	—	Q1043	C —	—	—	B 0	0	0	—
B 3.5	3.5	3.5	—	B 2.8	2.8	2.8	—	E —	—	—	—
E 2.2	2.2	2.2	—	E 1.6	1.6	1.6	—	Q1068	C 11.8	11.8	11.8
Q1021	C —	—	—	Q1044	C 11.2	11.2	11.2	B 0	0	0	—
B 2.8	2.8	2.8	—	B 2.2	2.2	2.2	—	Q1069	C —	—	—
E 1.2	1.2	1.2	—	E 2.9	2.9	2.9	—	Q1070	C —	—	—
Q1022	C —	—	—	Q1045	C —	—	—	Q1071	C —	—	—
B 1.8	1.8	1.8	—	B 3.4	3.4	3.4	—	Q1072	C —	—	—
E 7.5	7.5	7.5	—	E 1.2	1.2	1.2	—	Q1073	C —	—	—
Q1023	C —	—	—	Q1046	C —	—	—	Q1074	C —	—	—
B 8.1	8.1	8.1	—	B 0.6	0.6	0.6	—	Q1075	C —	—	—

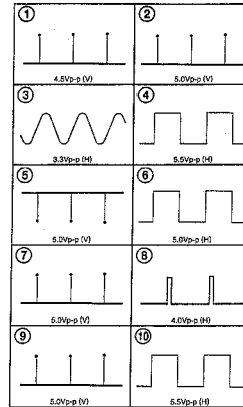
A (2/4) BOARD



A (3/4) BOARD

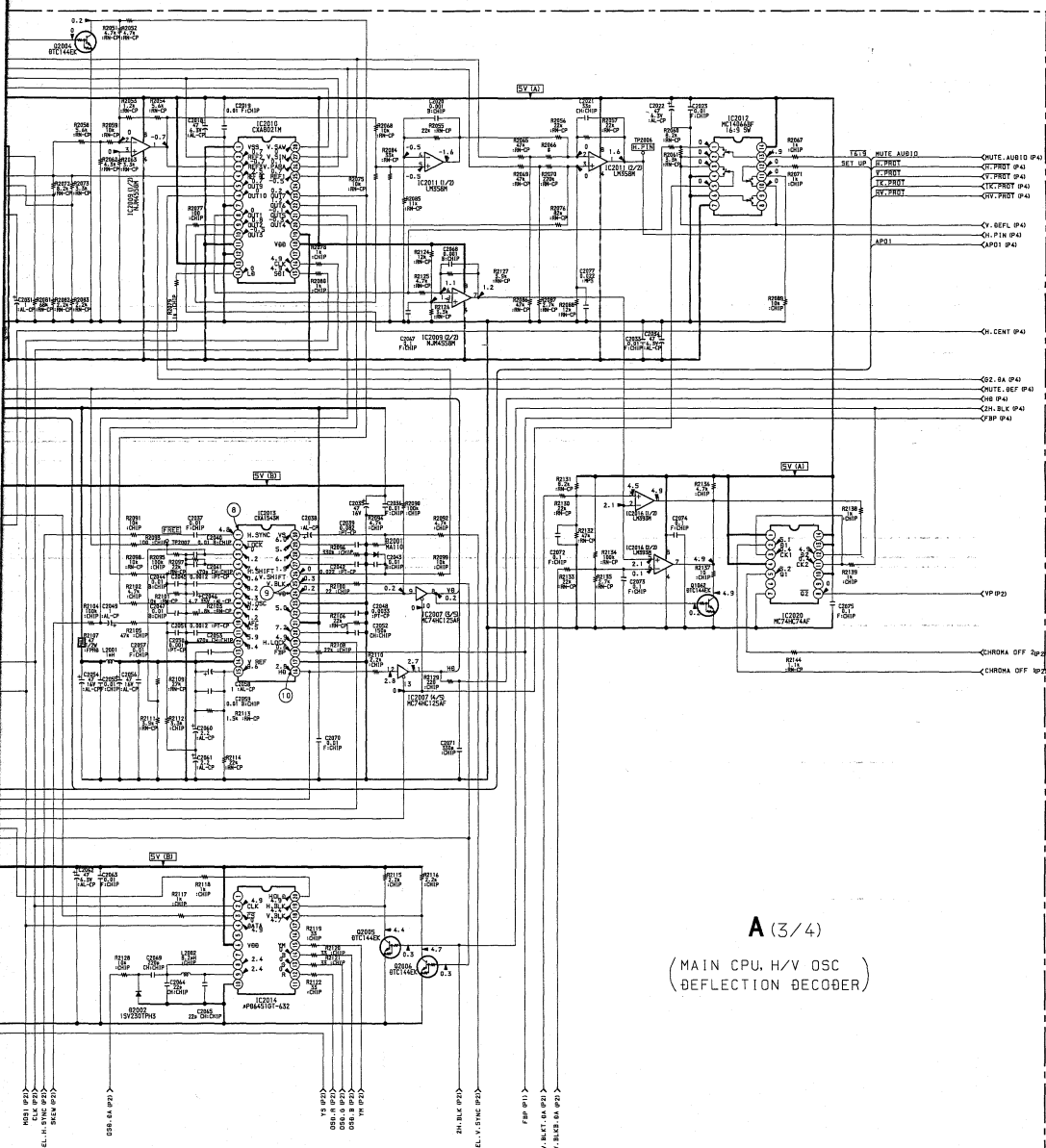
REF.	Pin No.	PAL	S-VIDEO	R.G.B
C2003	①	0	0.3	0.3
	②	0.3	0	0
	③	0	0	4.2
	④	4.9	4.9	0.2
	⑤	4.9	0.2	4.9
	⑥	0.2	4.9	4.9
C2008	⑦	4.9	0	0
	⑧	2.5	3.0	3.0
	⑨	0	-1.9	-1.9
C2010	⑩	-0.1	0	0
	⑪	1.2	0.9	0.9
C2013	⑫	0	-0.5	-0.5
	⑬	1.9	2.1	2.1
	⑭	5.4	5.2	5.2
C2020	⑮	5.4	5.2	5.2

A (3/4) BOARD



A (3/4) BOARD

C2001	-12V REG
C2002	-5V REG
C2003	MAIN CPU
C2004	WDT
C2005	MEMORY 1
C2006	MEMORY 2
C2007	BUFFER
C2008	DEF SG
C2009	V BLK SG/BUFFER
C2010	DEF DA
C2011	BUFFER/H PIN SG
C2012	T6-9 SW
C2013	HV OSC
C2014	OSD CPU
C2016	V BLK SG
C2020	V BLK BUFFER
Q1052	V BLK SG
Q2004	DEF MUTE
Q2005	INVERT
Q2006	INVERT
Q2007	RETIFFER
Q2008	BUFFER
D2001	PROTECT
D2002	OSD CONT
D2003	PROTECT



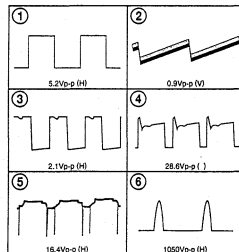
A(3/4)

(MAIN CPU, H/V OSC
DEFLECTION DECODER)

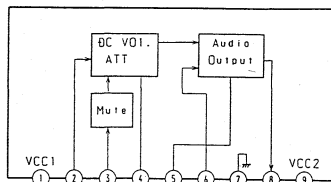
A (4/4) BOARD

Q3001	AUDIO AMP
Q3003	HV PWM/PROT BUFFER
Q3004	HV PROT
Q3005	HV REF
Q3006	HV PROT REF
Q3007	HV/K PROT
Q3008	G2 BUFFER
Q3009	LAND VOL
Q3001	SWITCH
Q3002	MUTE AUDIO
Q3003	AMP
Q3004	AMP
Q3005	AMP
Q3006	AMP
Q3007	AMP
Q3008	AMP
Q3009	BUFFER
Q3010	BUFFER
Q3011	BUFFER
Q3012	INVERT
Q3013	INVERT
Q3014	APD 1
Q3016	LATCH
Q3017	LATCH
Q3024	INVERTER
Q3029	HV DRIVE
Q3030	HV PWM
Q3031	HV OUT
Q3032	G2 OUT
Q3033	BUFFER
Q3034	BUFFER
Q3035	BUFFER
Q3036	LATCH
Q3037	LATCH
Q3038	INVERTER
Q3039	INVERTER
Q3040	P OFF MUTE
Q3041	P OFF MUTE
Q3042	V BLK
Q3043	LATCH
D3001	RECTIFIER
D3002	RECTIFIER
D3003	RECTIFIER
D3004	OR
D3005	OR
D3006	PROTECT
D3007	P ON MUTE
D3008	PROT
D3012	PROT
D3013	PROT
D3014	PROT
D3015	PROT
D3016	PROT
D3017	G2 RECTIFIER
D3019	PROT
D3021	PROT
D3022	PROT
D3023	IK PROT
D3024	IK PROT
D3025	H PROT
D3026	H PROT
D3028	HV PROT
D3029	HV PROT
D3030	RECTIFIER
D3031	HV PROT
D3032	PROT

A (4/4) BOARD



A (4/4) BOARD IC3001 AN5265



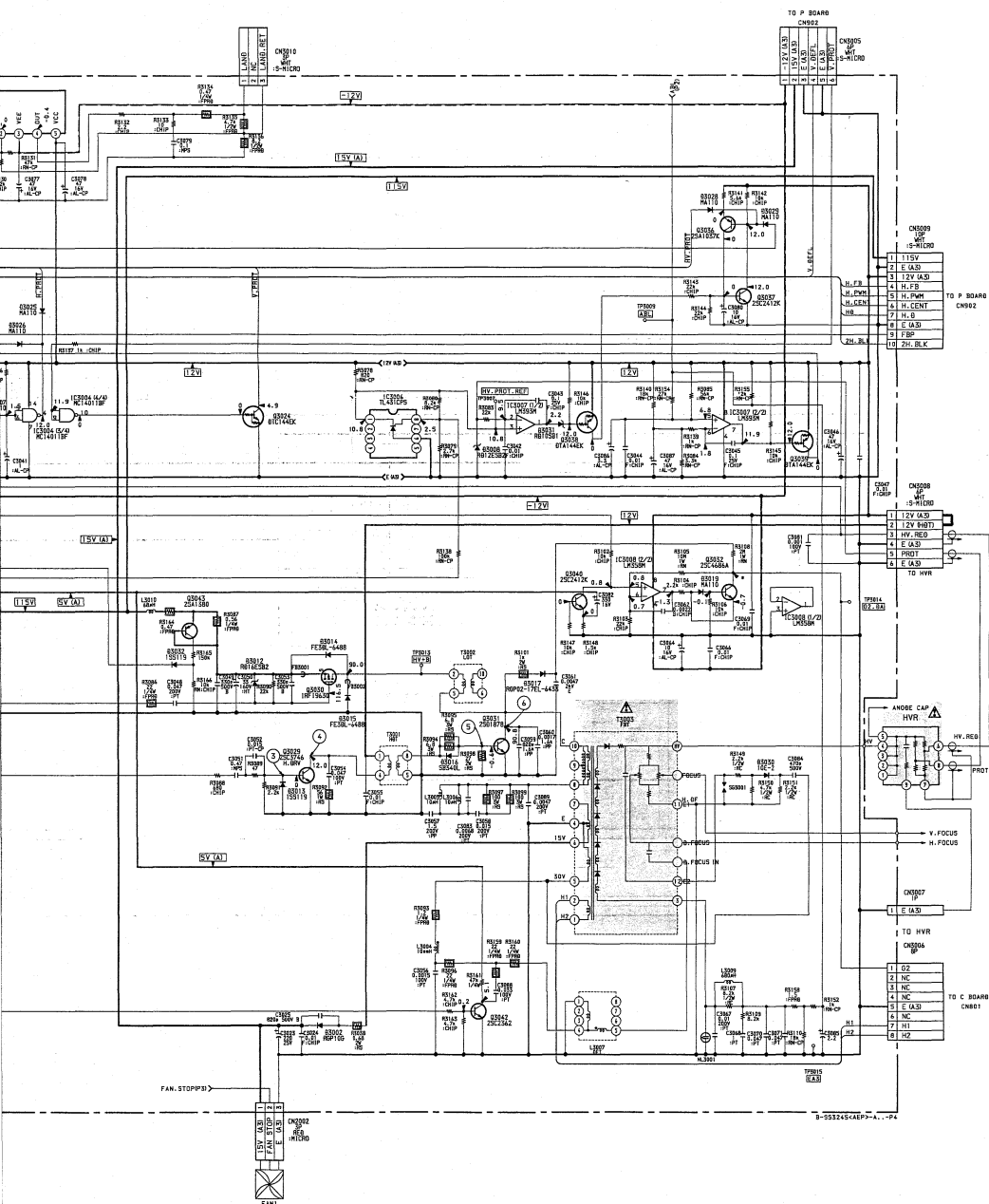
Schematic diagram

← A (3/4) board

Schematic diagram

A (4/4) board →





PVM-20M7MDE PVM-20M7MDE

A [NT/PAL DECODER, VIDEO VOL.] [CHROMA VOL, Y VOL., MATRIX VOL.] [MAIN CPU, H. V OSC.] [AUDIO OUT, R.G.B OUT, HV OUT]
[COMB FILTER] [RGB INTERFACE] [DEFLECTION DECODER] [DEFLECTION SYSTEM]

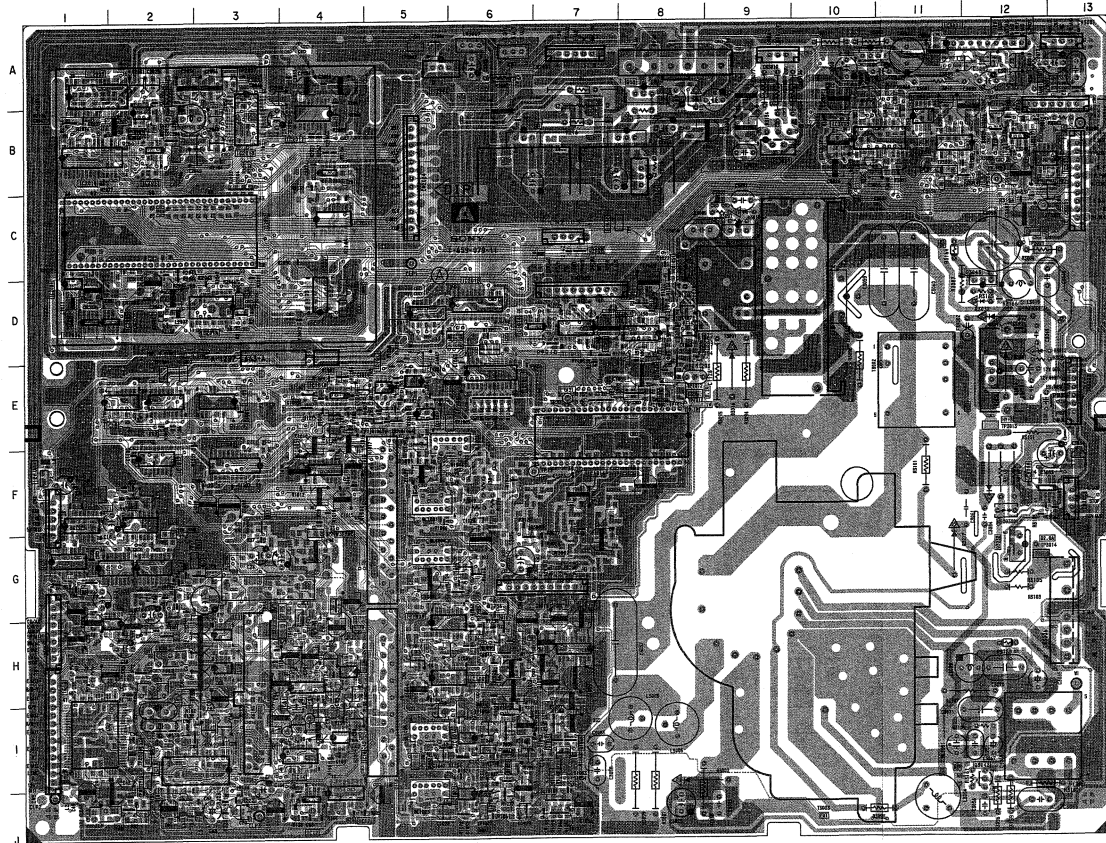
A BOARD
(COMPONENT SIDE)

IC	TRANSISTOR
IC1 F-1	Q1 B-7
IC2 F-2	Q3 G-1
IC3 G-1	Q5 F-2
IC4 G-2	Q7 H-1
IC5 G-2	Q6 H-2
IC6 G-2	Q12 H-2
IC7 G-3	Q13 F-3
IC9 H-3	Q15 G-2
IC10 H-1	Q17 G-3
IC11 H-4	Q26 J-2
IC12 J-4	Q58 A-8
IC13 J-2	Q1018 J-7
IC14 J-4	Q1021 J-7
IC15 H-4	Q1022 I-6
IC16 J-4	Q1045 I-7
IC17 J-4	Q1048 I-7
IC18 E-2	Q1049 H-6
IC1001 E-3	Q1050 D-7
IC1002 E-3	Q1051 C-8
IC1003 E-2	Q1056 G-6
IC1004 E-5	Q1057 G-6
IC1005 F-4	Q1058 H-6
IC1007 J-5	Q1059 E-4
IC1008 H-5	Q1060 E-4
IC1009 H-6	Q1061 H-6
IC1010 I-5	Q1063 E-5
IC1011 E-6	Q1064 E-5
IC1012 D-7	Q1065 D-8
IC1013 D-8	Q2007 B-7
IC1014 D-5	Q2008 C-7
IC1015 G-7	Q3001 A-10
IC1016 F-7	Q3009 F-6
IC1017 F-2	Q3014 B-12
IC1018 E-4	Q3029 C-9
IC1019 D-5	Q3031 D-10
IC1022 E-5	Q3032 G-12
IC1023 E-5	Q3036 B-12
IC2001 B-8	Q3042 I-2
IC2002 A-5	Q3043 D-12
IC2003 C-3	
IC2004 D-1	
IC2005 D-2	
IC2006 D-1	
IC2007 C-4	
IC2008 A-1	
IC2009 B-2	
IC2010 B-1	
IC2011 B-2	
IC2012 B-4	
IC2013 B-3	
IC2014 D-3	
IC2015 D-6	
IC2016 B-4	
IC2020 C-4	
IC3001 A-12	
IC3003 B-10	
IC3004 B-11	
IC3005 A-11	
IC3006 B-13	
IC3007 B-12	
IC3008 F-12	
IC3009 B-9	

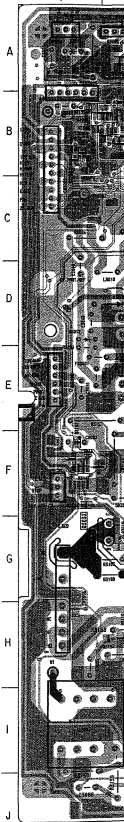
DIODE

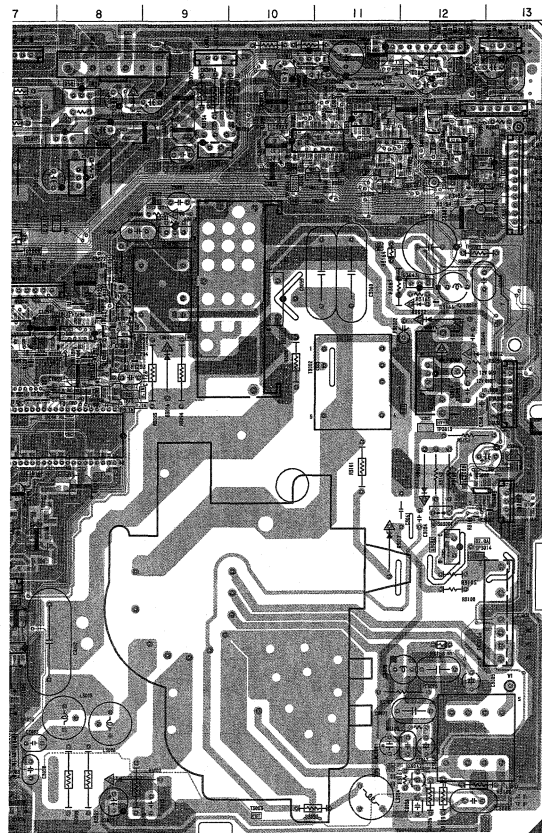
D10 A-8
D1001 E-8
D1007 E-4
D1008 E-4
D2002 D-2
D3002 I-8
D3007 B-11
D3008 B-13
D3012 D-12
D3013 C-9
D3014 F-12
D3015 D-12
D3016 E-9
D3017 G-11
D3021 B-11
D3022 B-10
D3029 B-12
D3030 F-12
D3032 D-12

- A BOARD - <Component Side>

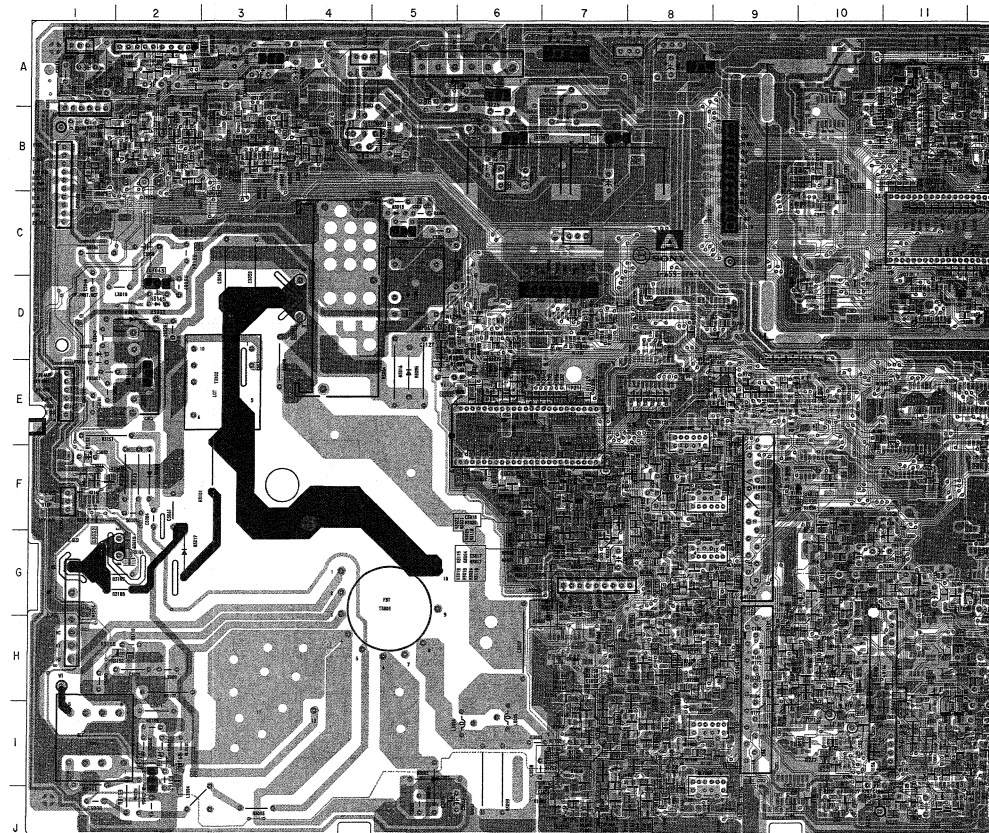


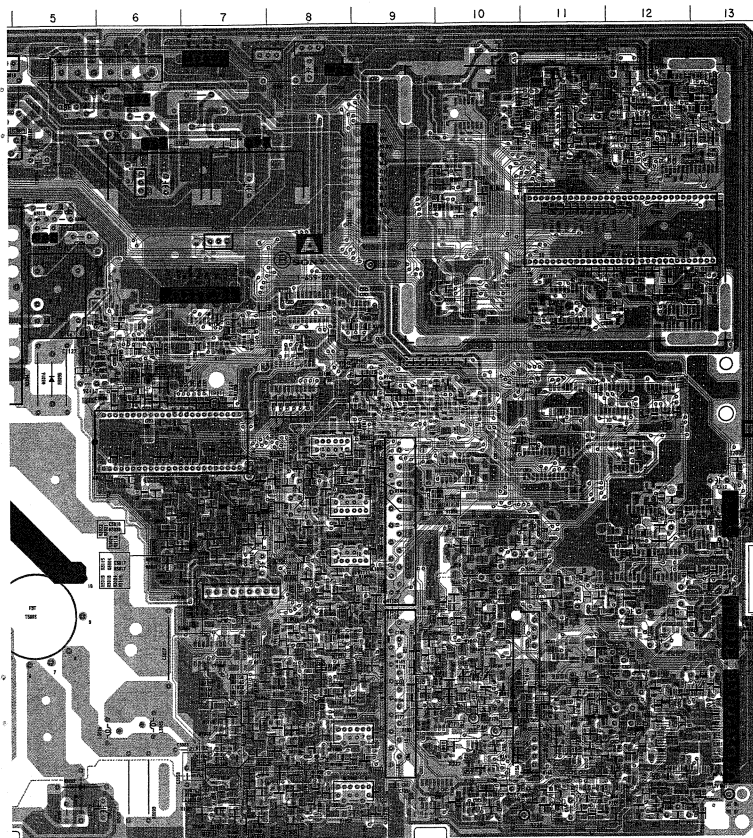
<Conductor S





<Conductor Side>



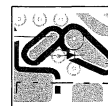

A BOARD
(CONDUCTOR SIDE)

TRANSISTOR	
Q2	G-12
Q4	G-12
Q6	F-12
Q9	F-10
Q10	G-11
Q11	F-10
Q14	G-10
Q16	F-10
Q18	G-11
Q19	H-11
Q20	H-12
Q21	H-11
Q22	H-12
Q23	J-13
Q24	J-12
Q25	J-12
Q27	I-12
Q28	I-12
Q35	I-11
Q36	J-11
Q37	J-11
Q38	I-12
Q39	I-12
Q40	I-10
Q41	I-11
Q42	H-11
Q43	G-10
Q44	H-10
Q45	H-9
Q46	G-9
Q47	H-10
Q48	H-9
Q49	H-10
Q50	H-10
Q51	H-9
Q52	I-12
Q56	J-11
Q57	J-11
Q59	I-10
Q1001	F-8
Q1002	F-9
Q1003	F-10
Q1004	F-9
Q1005	G-8
Q1006	F-8
Q1007	E-9
Q1008	F-7
Q1009	E-9
Q1010	F-9
Q1011	F-10
Q1012	I-8
Q1013	I-7
Q1014	I-7
Q1015	I-7
Q1016	J-7
Q1017	J-8
Q1019	J-9
Q1020	J-7
Q1023	G-8
Q1024	H-8
Q1025	H-8
Q1026	H-8
Q1027	H-8
Q1028	H-8
Q1029	H-8
Q1030	H-7
Q1031	G-9
Q1032	G-8
Q1033	H-9
Q1034	H-7
Q1035	H-7
Q1036	G-8
Q1037	I-8
Q1038	H-8
Q1039	I-8
Q1040	H-7
Q1041	I-7
Q1042	H-7
Q1043	I-7
Q1044	I-8
Q1046	I-9
Q1047	I-7
Q1052	F-7
Q1053	F-7
Q1054	G-8
Q1055	E-12
Q1062	B-10
Q1066	E-8
Q1067	D-5
Q1068	D-7
Q2004	B-12
Q2005	D-11
Q2006	D-11
Q3002	A-2
Q3003	F-7
Q3004	G-6
Q3005	F-6
Q3006	G-7
Q3007	G-7
Q3008	G-6
Q3010	G-7
Q3011	G-6
Q3012	B-4
Q3013	B-4
Q3016	B-2
Q3017	B-3
Q3024	B-2
Q3033	F-6
Q3034	F-6
Q3035	F-7
Q3037	B-2
Q3038	B-1
Q3039	B-2
Q3040	F-1
Q3041	A-2

DIODE

D1	B-7
D2	B-7
D4	I-11
D5	H-11
D7	I-12
D9	A-5
D1002	D-3
D1004	F-11
D1005	F-11
D1009	E-5
D2001	A-11
D2003	F-13
D3001	A-3
D3003	B-3
D3004	B-4
D3005	B-4
D3006	B-3
D3019	G-2
D3023	B-2
D3024	B-2
D3025	B-2
D3026	B-2
D3028	B-2
D3031	B-1

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.



NOTE:

The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

B

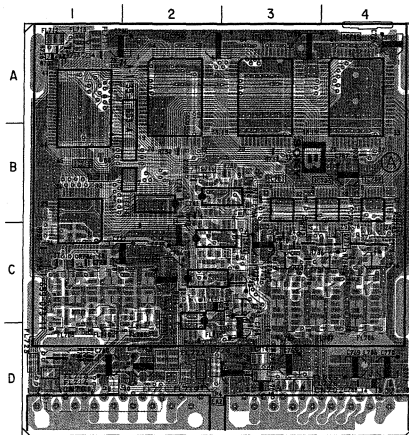
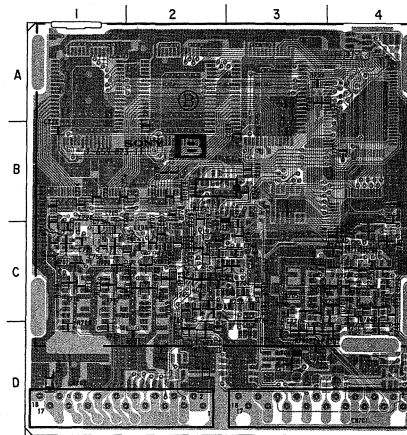
[A/D, D/A CONVERTER, MEMORY, FLICKER FREE CPU]

**B BOARD
(COMPONENT SIDE)**

IC	
IC701	B-3
IC702	B-4
IC703	B-4
IC704	C-2
IC705	A-2
IC709	A-4
IC710	A-3
IC711	B-1
IC712	A-1
IC713	B-2
IC714	C-2
IC715	C-2
IC716	B-2

TRANSISTOR	
Q711	C-4
Q712	C-3

DIODE	
D703	A-1

- B BOARD - <Component Side>**<Conductor Side>**

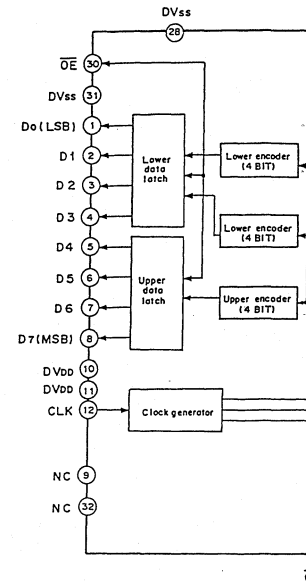
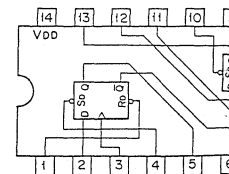
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

**B BOARD
(CONDUCTOR SIDE)**

IC	
IC718	B-2

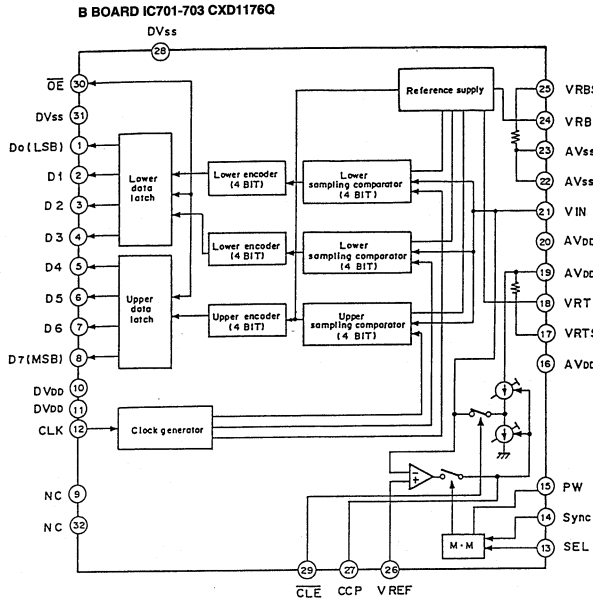
TRANSISTOR	
O701	C-2
O702	C-1
O703	C-2
O704	C-4
O705	C-3
O706	C-4
O707	D-2
O708	C-4
O709	C-4
O710	C-4

DIODE	
D701	C-2
D702	C-3
D704	C-3
D705	C-3
D706	D-1
D707	D-2

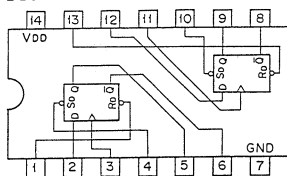
B BOARD IC701-703 CXD1176Q**B BOARD IC713 MC74HC74AF**

B BOARD
(CONDUCTOR SIDE)

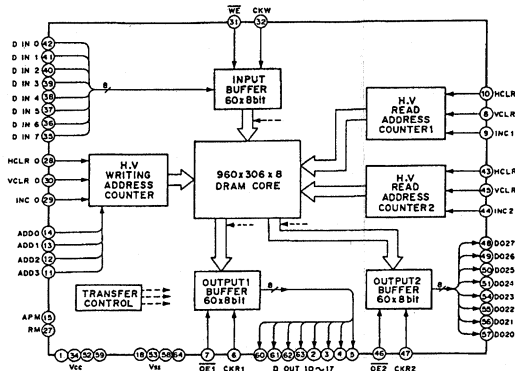
IC	
IC718	B-2
TRANSISTOR	
Q701	C-2
Q702	C-1
Q703	C-2
Q704	C-4
Q705	C-3
Q706	C-4
Q707	D-2
Q708	C-4
Q709	C-4
Q710	C-4
DIODE	
D701	C-2
D702	C-3
D703	C-3
D704	C-3
D705	C-3
D706	D-1
D707	D-2



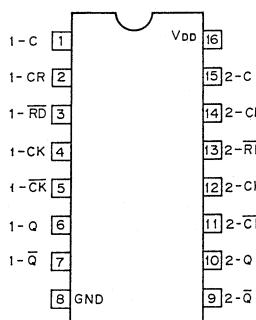
B BOARD IC713 MC74HC74AF



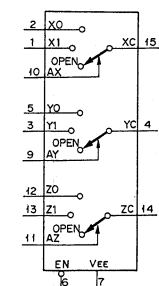
B BOARD IC708-710 CXK48324Q



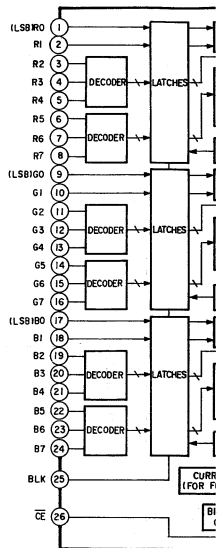
B BOARD IC717 MC74HC4538AF



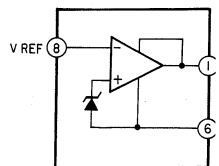
B BOARD IC714 MC74HC4053F



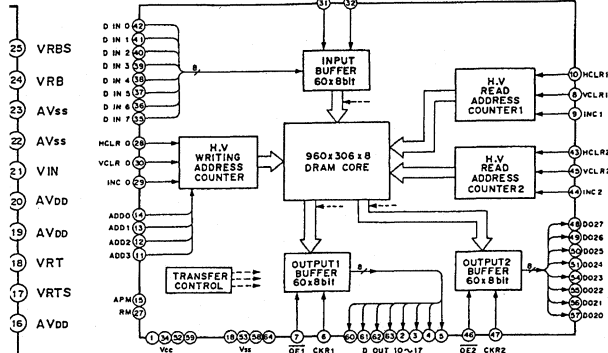
B BOARD IC711 CXD1171



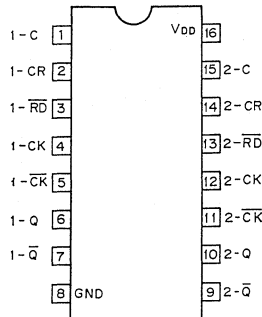
B BOARD IC715 TL431CP



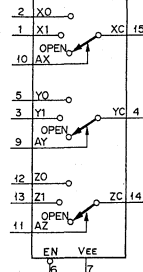
B BOARD IC708-710 CXK48324Q



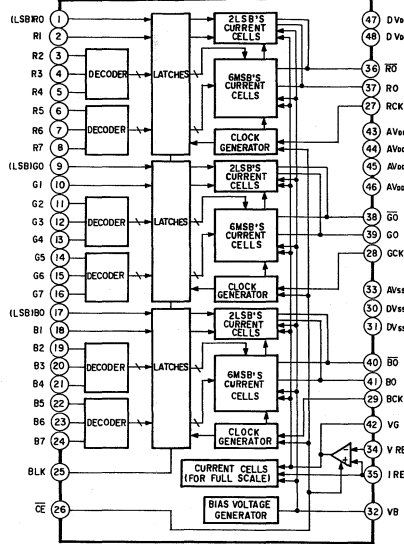
B BOARD IC717 MC74HC4538AF



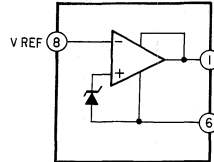
B BOARD IC714 MC74HC4053F



B BOARD IC711 CXD1178Q



B BOARD IC715 TL431CPS



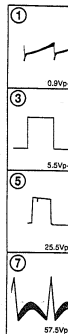
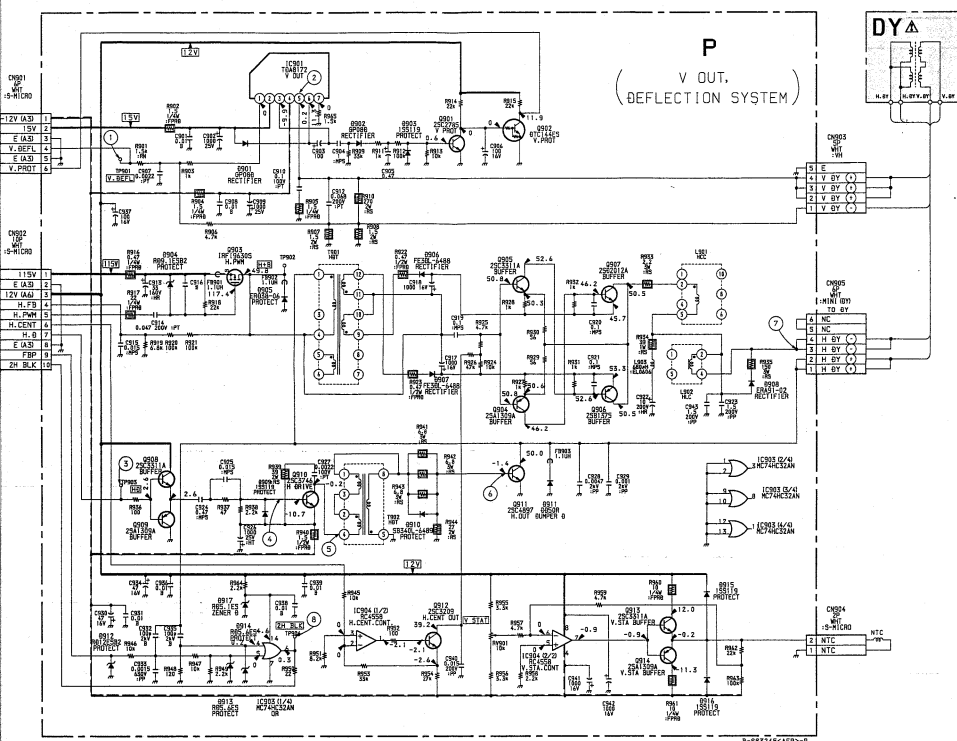
B BOARD

REF	Pin No.	PAL	S-VIDEO	R.G.B	REF	Pin No.	PAL	S-VIDEO	R.G.B
IC701	1	1.7	1.0	0.8	IC710	1	1.7	1.0	0.8
	2	0.9	0.7	1.0		2	0.9	0.7	1.0
	3	1.7	1.5	1.7		3	1.7	1.5	1.7
	4	1.8	2.1	1.8		4	1.8	2.1	1.8
	5	3.1	3.8	1.3		5	3.1	3.8	1.3
	6	1.7	1.1	4.8		6	1.7	1.1	4.8
	7	1.7	1.1	0		7	1.7	1.1	0
	8	1.8	1.2	3.0		8	1.8	1.2	3.0
	9	2.1	1.3	1.0		9	2.1	1.3	1.0
	10	1.1	0.8	1.3		10	1.1	0.8	1.3
IC702	11	2.2	2.0	2.0	IC711	11	2.2	2.0	2.0
	12	2.3	2.8	2.3		12	2.3	2.8	2.3
	13	2.4	2.9	1.0		13	2.4	2.9	1.0
	14	1.3	0.8	3.8		14	1.3	0.8	3.8
	15	1.3	0.8	0		15	1.3	0.8	0
	16	1.4	1.0	2.3		16	1.4	1.0	2.3
	17	1.8	1.4	1.8		17	1.8	1.4	1.8
	18	1.8	1.3	1.8		18	1.8	1.3	1.8
	19	1.5	2.4	3.2		19	1.5	2.4	3.2
	20	2.0	1.7	2.7		20	2.0	1.7	2.7
IC703	21	2.0	1.8	2.7	IC712	21	2.0	1.8	2.7
	22	0	1.1	0		22	0	1.1	0
	23	0	1.0	1.0		23	0	1.0	1.0
	24	1.9	1.5	1.5		24	1.9	1.5	1.5
	25	1.7	1.7	0.8		25	1.7	1.7	0.8
	26	0.6	0.8	0.6		26	0.6	0.8	0.6
	27	0.3	1.5	2.5		27	0.3	1.5	2.5
	28	1.8	1.5	1.6		28	1.8	1.5	1.6
	29	0.9	0.7	1.0		29	0.9	0.7	1.0
	30	1.7	1.1	0.8		30	1.7	1.1	0.8
IC704	31	1.4	0.8	0	IC713	31	1.4	0.8	0
	32	2.7	2.9	1.0		32	2.7	2.9	1.0
	33	1.8	2.1	1.8		33	1.8	2.1	1.8
	34	1.8	1.5	1.6		34	1.8	1.5	1.6
	35	0.9	0.7	1.0		35	0.9	0.7	1.0
	36	1.7	1.1	0.8		36	1.7	1.1	0.8
	37	1.4	0.8	0		37	1.4	0.8	0
	38	1.4	0.9	0		38	1.4	0.9	0
	39	1.4	0.8	3.8		39	1.4	0.8	3.8
	40	2.4	2.9	1.0		40	2.4	2.9	1.0
IC705	41	0.6	0.6	0.5	IC714	41	0.6	0.6	0.5
	42	1.2	1.2	1.0		42	1.2	1.2	1.0
	43	1.2	1.2	1.0		43	1.2	1.2	1.0
	44	3.1	3.3	3.3		44	3.1	3.3	3.3
	45	3.1	3.3	3.1		45	3.1	3.3	3.1
	46	3.1	3.3	3.1		46	3.1	3.3	3.1
	47	3.1	3.3	3.1		47	3.1	3.3	3.1
	48	3.1	3.3	3.1		48	3.1	3.3	3.1
	49	3.1	3.3	3.1		49	3.1	3.3	3.1
	50	3.1	3.3	3.1		50	3.1	3.3	3.1
IC706	51	3.1	3.3	3.1	IC715	51	3.1	3.3	3.1
	52	3.1	3.3	3.1		52	3.1	3.3	3.1
	53	3.1	3.3	3.1		53	3.1	3.3	3.1
	54	3.1	3.3	3.1		54	3.1	3.3	3.1
	55	3.1	3.3	3.1		55	3.1	3.3	3.1
	56	3.1	3.3	3.1		56	3.1	3.3	3.1
	57	3.1	3.3	3.1		57	3.1	3.3	3.1
	58	3.1	3.3	3.1		58	3.1	3.3	3.1
	59	3.1	3.3	3.1		59	3.1	3.3	3.1
	60	3.1	3.3	3.1		60	3.1	3.3	3.1

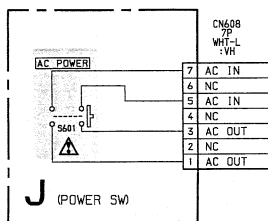
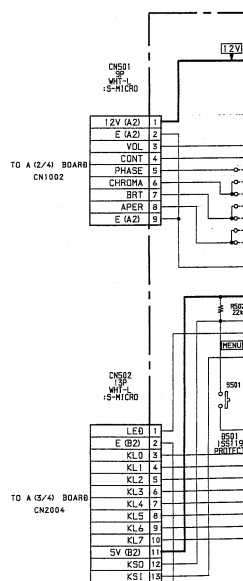
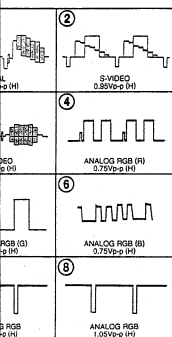
2018年7月4日

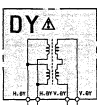
[illegible]

<p>①</p> <p>S-VIDEO 0.8Vp-p (H) PAL 0.55Vp-p (H)</p>	<p>①</p> <p>ANALOG RGB (G) 0.7Vp-p (H)</p>	<p>②</p> <p>S-VIDEO 0.4Vp-p (H) PAL 0.9Vp-p (H)</p>	<p>②</p> <p>ANALOG RGB (R) 0.5Vp-p (H)</p>
<p>③</p> <p>S-VIDEO 0.85Vp-p (H) PAL 0.85Vp-p (H)</p>	<p>③</p> <p>ANALOG RGB 0.4Vp-p (H)</p>	<p>③</p> <p>ANALOG RGB 0.5Vp-p (H)</p>	<p>④</p> <p>S-VIDEO 0.5Vp-p (V)</p>
<p>⑤</p> <p>S-VIDEO 0.5Vp-p (H)</p>	<p>⑥</p> <p>PAL 1.4Vp-p (H)</p>	<p>⑥</p> <p>S-VIDEO 2.0Vp-p (H)</p>	<p>⑥</p> <p>ANALOG RGB 1.4Vp-p (H)</p>
<p>⑦</p> <p>S-VIDEO 0.85Vp-p (H) PAL 1.85Vp-p (H)</p>	<p>⑦</p> <p>ANALOG RGB 1.1Vp-p (H)</p>	<p>⑧</p> <p>S-VIDEO 1.8Vp-p (H)</p>	<p>⑧</p> <p>S-VIDEO 0.85Vp-p (H)</p>
<p>⑧</p> <p>ANALOG RGB 1.1Vp-p (H)</p>	<p>⑨</p> <p>PAL 1.1Vp-p (H)</p>	<p>⑨</p> <p>S-VIDEO 1.75Vp-p (H)</p>	<p>⑨</p> <p>ANALOG RGB 1.32Vp-p (H)</p>
<p>⑩</p> <p>PAL 1.8Vp-p (H)</p>	<p>⑩</p> <p>S-VIDEO 0.75Vp-p (H)</p>	<p>⑩</p> <p>ANALOG RGB 1.0Vp-p (H)</p>	<p>⑪</p> <p>S-VIDEO 0.7Vp-p (H) PAL 1.7Vp-p (H)</p>
<p>⑪</p> <p>ANALOG RGB 1.0Vp-p (H)</p>	<p>⑫</p> <p>PAL 1.1Vp-p (H)</p>	<p>⑫</p> <p>S-VIDEO 1.8Vp-p (H)</p>	<p>⑫</p> <p>ANALOG RGB 1.4Vp-p (H)</p>
<p>⑬</p> <p>PAL 1.75Vp-p (H)</p>	<p>⑬</p> <p>S-VIDEO 0.85Vp-p (H)</p>	<p>⑬</p> <p>ANALOG RGB 1.1Vp-p (H)</p>	<p>⑭</p> <p>S-VIDEO 0.8Vp-p (H) PAL 2.0Vp-p (H)</p>
<p>⑭</p> <p>ANALOG RGB 1.1Vp-p (H)</p>	<p>⑮</p> <p>S-VIDEO 2.75Vp-p (H)</p>		

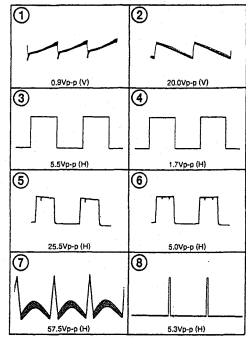


PAL	S-VIDEO	R.G.B
0	0	4.6
0	0	2.7

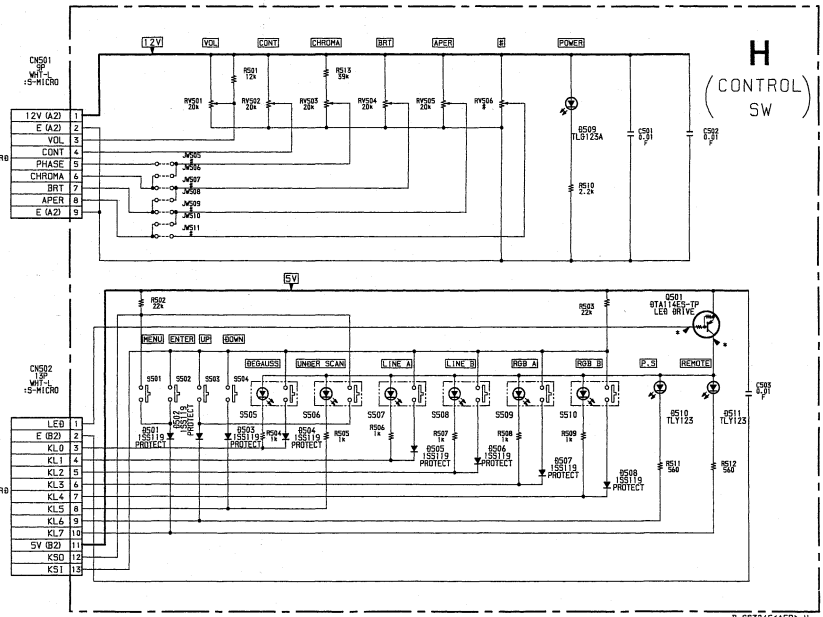
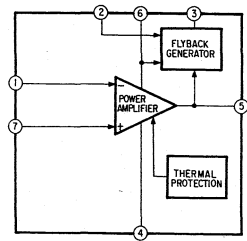




P BOARD



P BOARD IC901 TDA8172



B-553245<KEP>H..

Q

[INPUT SIGNAL, SELECT]

H

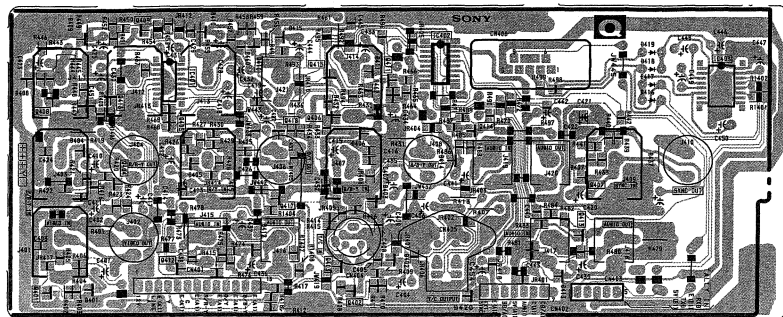
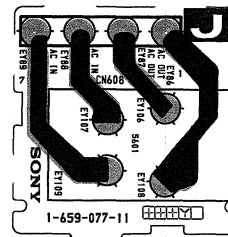
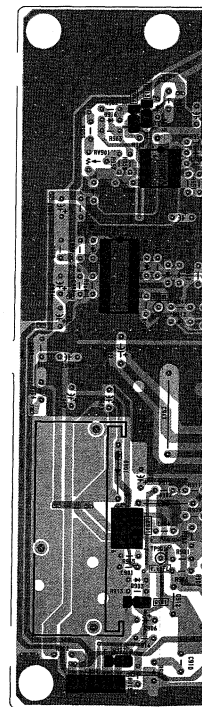
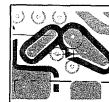
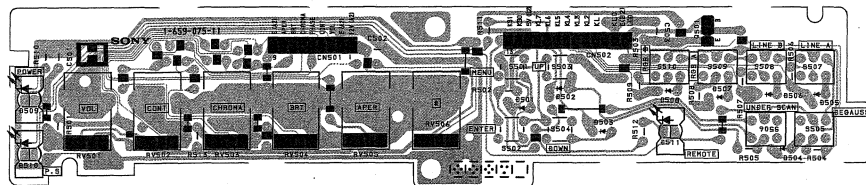
[CONTROL SW]

J

[POWER SW]

P

[V OUT, DEFLECTION SYSTEM]

PVM-20M7MDE**PVM-20M7MDE****- Q BOARD -****- J BOARD -****- P BOARD -****- H BOARD -****NOTE:**

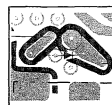
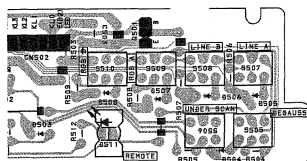
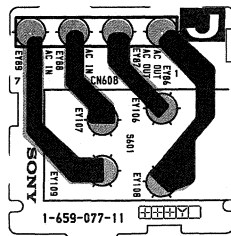
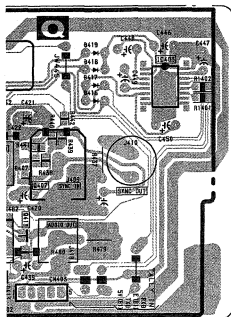
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

SW]

P

[V OUT, DEFLECTION SYSTEM]

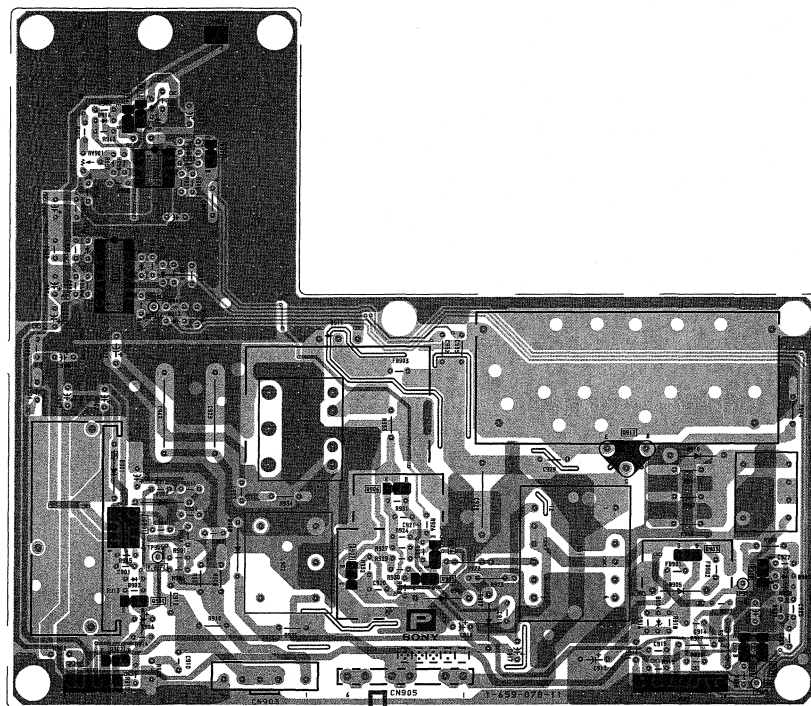
- J BOARD -



NOTE:

The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

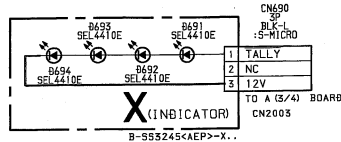
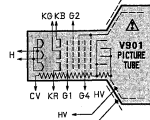
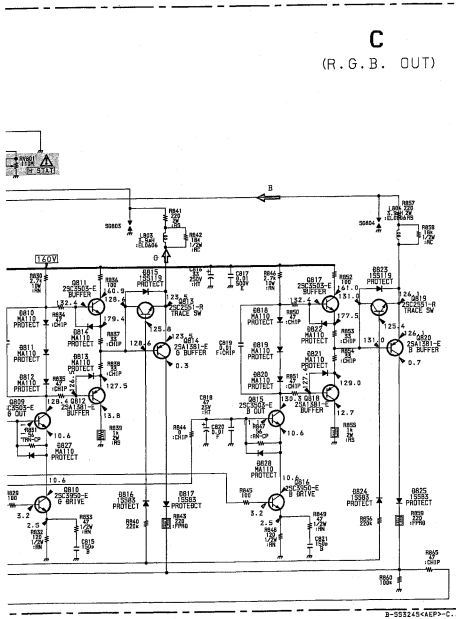
- P BOARD -



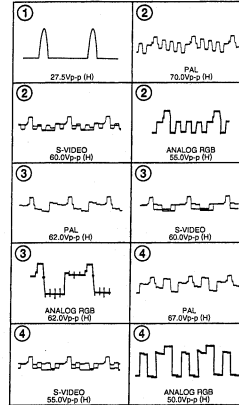
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.



8 9 10 11 12 13 14 15 16 17



C BOARD

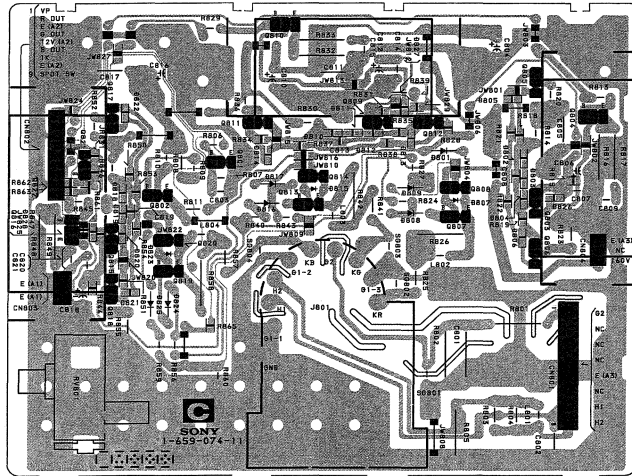


C BOARD

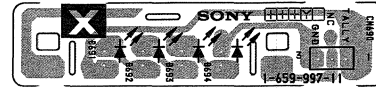
REF.	PAL	S-VIDEO	R.G.B
Q803	E 10.5	10.5	10.5
	C 130.8	128.3	131.2
	B 11.0	11.1	11.1
Q805	E 180.3	129.7	131.7
	C 160.8	160.8	160.8
	B 132.1	130.4	133.3
Q806	E 130.1	128.9	130.1
	C 13.2	13.5	13.2
	B 131.5	128.3	131.2
Q807	E 127.6	125.5	127.5
	C 131.9	129.4	131.5
	B 129.0	126.9	129.3
Q808	E 127.6	125.5	127.5
	C 0.6	0.1	0.2
	B 131.9	129.4	131.4
Q809	E 10.6	10.6	10.6
	C 128.4	125.3	125.3
	B 11.1	11.1	11.1
Q811	E 179.4	126.5	126.5
	C 160.9	160.8	160.9
	B 132.4	127.5	128.1
Q812	E 127.5	125.5	124.1
	C 13.8	13.8	13.8
	B 126.5	125.3	124.6
Q813	E 123.5	122.1	120.8
	C 128.6	126.1	126.1
	B 125.8	123.3	122.1
Q814	E 123.5	122.1	120.8
	C 0.3	0.1	0.1
	B 128.6	126.1	126.1
Q815	E 10.6	10.6	10.6
	C 130.3	125.9	130.3
	B 11.1	11.1	11.1
Q817	E 177.5	127.4	131.6
	C 161.0	160.9	161.0
	B 132.4	128.0	132.3
Q818	E 129.0	126.5	130.8
	C 12.7	13.4	13.0
	B 127.4	125.9	130.2
Q819	E 126.1	122.1	126.6
	C 131.0	127.0	131.3
	B 125.4	123.8	121.8
Q820	E 126.1	122.2	126.7
	C 0.7	0.3	0.3
	B 131.0	127.0	131.2

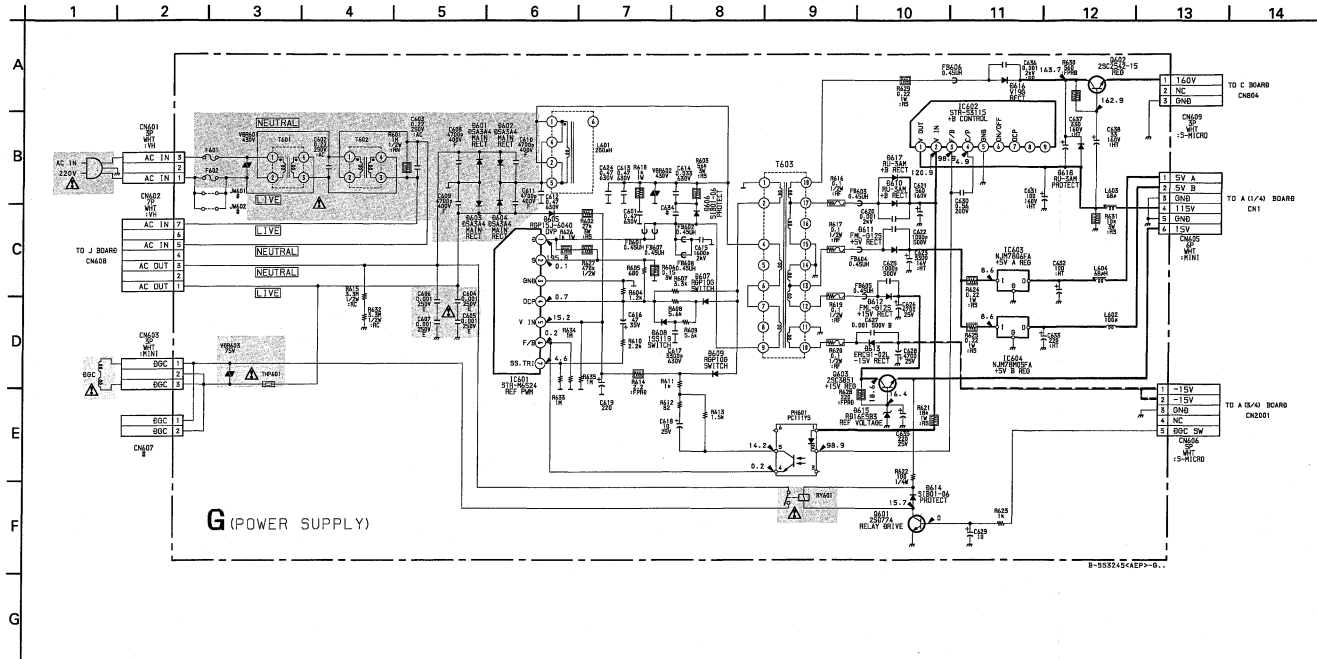
C [R.G.B OUT] **X** [INDICATOR]

- C BOARD -



- X BOARD -





6-5. SEMICONDUCTORS

AN5265



CXA1211M
CXA1521M
LM359M
LM393M
MM1111XF
MM1111XFF
MM1112XF
MM1112XFF
NJM24C04EM8
NJM4558M
TL431CPS
μPC4558G2



CXA1470AM
CXA8021M



CXA1543M



CXA1554M
M5235FP-E1



CXA1739S



CXD1176Q



CXD1178Q



CXD2000Q
CXK48324Q



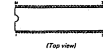
CXD2024AQ



HD14053BFP
MC14053BF
MC14094BF
MC74HC158F
MC74HC4553F
MM1231XFFK
TC74HC4538AF



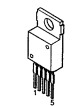
HD6473257P10-MF1E



MC14011BF
MC14013BF
MC14068BF
MC74HC00AF
MC74HC125AF
MC74HC157AF
MC74HC74AF
TC74AC04F
74AC04SJ



MC14538BPEL
LA6500-FA



MC74HC32AN



M51279FP



NJM78M05FA
μPC24M06HF



NJM7806FA
NJM7905FA
NJM7912FA



RC4558P
μPC4558C



STR-S3115



STR-M6523
TDA8172



μPD6451AGT-632-E2



DTA144EKA
DTC144EKA
2SA1037K
2SA1162-G
2SC1623-L5L6
2SC2412K
2SC3209LK
2SD774-3
2SD774-34



DTA114ESA
DTC144ESA



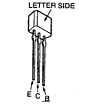
IRF16930
IRF16930GS
IRF16930S
2SB1094-LK
2SB1375
2SC2542-15
2SC3746
2SC3851
2SD1134
2SD1134-C
2SD2012



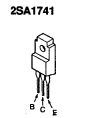
2SA1091-O
2SA1091R
2SC2551-O
2SC2551R



2SA1175-HFE
2SA1309A-QTA
2SA2785-HFE
2SC3311A-QTA



2SA1381
2SC3503-C
2SC3503-E



2SC3950-D



2SC3950-E



2SC3997CA
2SC4897-02



2SK94



DD50R



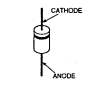
DSA344
V19GF1



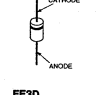
DTZ11B
DTZ13C
MA110
RD10SB1-T1
RD12SB2
RD12SB5-T1
RD12SB3-T1
RD13SB2
RD13SB2-T1
RD5.1SB2-T1
RD5.1SB2-T2
RD5.1SB3-T1
RD5.6SB1-T1
RD6.2SB1-T1
1SV230-TPH3
1SV232-TPH3
17393
17363-01-T3A



EL12
GP08D
GP00DPKG23
RGP02-17EL-6433
RGP10G
RGP10GPKG23
15S83
10E-2



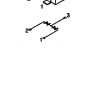
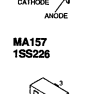
ERA81-02
ERC81-02
ERD38-06
RGP15J-6040
RU-3AM
SIB01-06



FE3D
FE3DL-6488



FML-G12S



RD10SB1
RD5.6SB2
RD5.6SB2-T1



RD12SB2
RD16SB2
RD16SB3
RD5.1SB2
RD5.6SB2
RD6.1ESB2
1SS119



SB340



SEL4410E-D
TLG123A
TLY123



SECTION 7

EXPLODED VIEWS

NOTE:

• Items with no part number and no description are not stocked because they are seldom required for routine service.

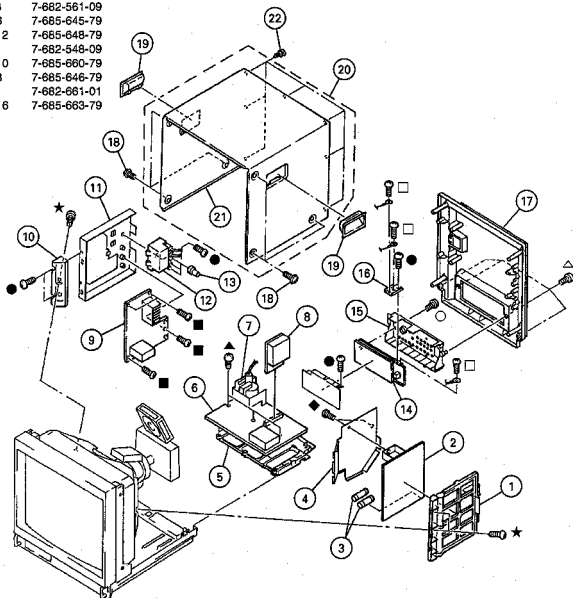
• The construction parts of an assembled part are indicated with a collation number in the remark column.

• Items marked * * * are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

7-1. CHASSIS

●	+BVTT 4X8	7-682-561-09
■	+BVTP 3X8	7-685-645-79
◆	+BVTP 3X12	7-685-648-79
▲	+P 3X8	7-682-548-09
★	+BVTP 4X10	7-685-660-79
○	+BVTP 3X8	7-685-646-79
□	+PS 4X8	7-682-661-01
△	+BVTP 4X16	7-685-663-79

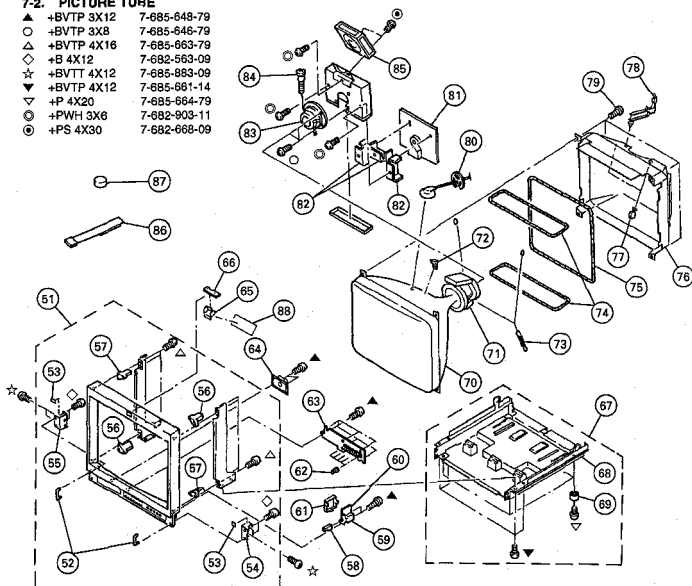


REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	*4-043-689-01	BRACKET, G		13	*4-043-689-01	DC BLOCK, HIGH-VOLTAGE	
2	*A-1316-245-A	Q BOARD, COMPLETE		14	4-373-137-01	CAP (2), RUBBER	
3	*A-1316-245-A	Q BOARD, COMPLETE		15	1-694-086-11	TERMINAL BOARD ASSY, I/O (Q BOARD)	
4	*X-4033-346-1	HEAT SINK ASSY (G)		16	*4-043-688-51	PANEL, CONNECTOR	
5	*4-043-690-01	BRACKET, MAIN		17	*4-043-678-01	TERMINAL, GROUND	
6	*A-1297-663-A	A BOARD, COMPLETE		18	4-043-677-01	COVER, REAR	
7	*A-1316-245-A	Q BOARD, COMPLETE		19	4-847-802-11	SCREW (OS), CASE, CLAW	
8	*A-1135-853-A	B BOARD, COMPLETE		20	4-043-825-11	HANDLE	
9	*A-1195-102-A	P BOARD, COMPLETE		21	A-1005-293-B	COVER COMPLETE ASSY, TOP	21
10	*4-046-391-01	BRACKET, FITTING		22	4-043-675-31	COVER, TOP	
11	*4-052-203-01	BRACKET, P PC BOARD			4-391-825-01	RIVET, NYLON	

The components identified by shading and mark Δ , are critical for safety.
Replace only with part number specified.

7-2. PICTURE TUBE

▲ +BVTP 3X12	7-685-648-79
○ +BVTP 3X8	7-685-646-79
△ +BVTP 4X16	7-685-663-79
◇ +B 4X12	7-682-563-09
☆ +BVTT 4X12	7-685-883-09
▼ +BVTP 4X12	7-685-661-14
▽ +P 4X20	7-685-664-79
○ +PWH 3X6	7-682-903-11
● +PS 4X30	7-682-668-09



REF. NO.	PART NO.	DESCRIPTION
51	X-4033-347-1	BEZEL ASSY
52	4-052-209-11	HANDLE, PROTECTOR
53	*4-043-797-01	PLATE, BLIND
54	4-043-670-01	REINFORCEMENT (R), HANDLE
55	*4-043-669-01	REINFORCEMENT (L), HANDLE
56	*4-043-672-01	BRACKET (A), PICTURE TUBE
57	*4-043-673-01	BRACKET (B), PICTURE TUBE
58	4-043-683-01	BOTTOM, POWER SWITCH
59	1-544-063-12	SPEAKER
60	*A-1388-181-A	J BOARD, COMPLETE
61	4-043-681-01	COVER, AC SWITCH
62	X-4030-162-3	KNOB ASSY, CONTROL
63	*A-1372-183-A	H BOARD, COMPLETE
64	1-544-063-12	SPEAKER
65	*4-043-671-01	REFLECTOR, LED
66	*A-1390-586-A	X BOARD, COMPLETE
67	*X-4032-770-1	CABINET ASSY, BOTTOM
68	*X-4031-740-1	CABINET, BOTTOM
69	4-901-947-01	LEG

REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
52-57	70	Δ 8-756-778-05	PICTURE TUBE 20MT1 (PVM)	
	71	Δ 8-432-432-51	DY Y20SP2-AM	
	72	4-040-597-01	SPACER, DY	
	73	4-303-774-XX	SPRING	
	74	Δ 1-1426-305-41	COIL, DEMAGNETIZATION	
	75	Δ 1-411-657-11	COIL, LANDING CORRECTION	
	76	*X-4381-914-8	SHIELD ASSY, PICTURE TUBE	
	77	*4-395-824-01	HOLDER, DEGAUSSING COIL	
	78	4-387-384-01	HOLDER, LEAD	
	79	4-365-808-01	SCREW (5), TAPPING	
	80	*3-704-372-01	HOLDER, HV CABLE	
	81	*A-1335-057-A	C BOARD, COMPLETE	
	82	*X-4033-345-1	ASSY, HEAT SINK (C)	
	83	Δ 8-433-024-11	NA30H180	
	84	4-041-627-01	SCREW (MAX20), HEXAGON HEAD	
	85	1-541-449-11	FAN, DC (WITH SENSOR)	
68-69	86	X-4030-584-1	PERMALLOY ASSY, CORRECTION	
	87	1-452-032-00	MAGNET, DISK	
	88	4-044-606-01	CUSHION, TALLY	

SECTION 8

ELECTRICAL PARTS LIST

B

NOTE:

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

• Items marked * * * are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

• All resistors are in ohms
• F: nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS

PF: μ F

• There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
* A-1135-853-A B BOARD, COMPLETE *****				C755	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
				C756	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
				C757	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V
<CAPACITOR>				C758	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V
C704	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V	C759	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C705	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C760	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V
C706	1-126-394-11	ELECT CHIP 10 μ F	20% 16V	C761	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C707	1-164-004-11	CERAMIC CHIP 0.1 μ F	10% 25V	C762	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C708	1-163-038-91	CERAMIC CHIP 0.1 μ F	25V	C763	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V
C709	1-164-232-11	CERAMIC CHIP 0.01 μ F	10% 50V	C764	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C710	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C765	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V
C711	1-163-038-91	CERAMIC CHIP 0.1 μ F	25V	C766	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C712	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C767	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V
C716	1-126-394-11	ELECT CHIP 10 μ F	20% 16V	C768	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C717	1-164-004-11	CERAMIC CHIP 0.1 μ F	10% 25V	C769	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V
C718	1-163-038-91	CERAMIC CHIP 0.1 μ F	25V	C770	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V
C719	1-164-232-11	CERAMIC CHIP 0.01 μ F	10% 50V	C771	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C720	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C772	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C721	1-163-038-91	CERAMIC CHIP 0.1 μ F	25V	C773	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C722	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C774	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C723	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C775	1-163-251-11	CERAMIC CHIP 100pF	5% 50V
C724	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C776	1-163-251-11	CERAMIC CHIP 100pF	5% 50V
C725	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C777	1-163-251-11	CERAMIC CHIP 100pF	5% 50V
C726	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V	C778	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C727	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V	C779	1-126-206-11	ELECT 100 μ F	20% 6.3V
C728	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C780	1-126-206-11	ELECT 100 μ F	20% 6.3V
C729	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C781	1-163-275-11	CERAMIC CHIP 0.001 μ F	5% 50V
C730	1-164-004-11	CERAMIC CHIP 0.1 μ F	10% 25V	C782	1-163-125-00	CERAMIC CHIP 220pF	5% 50V
C731	1-164-004-11	CERAMIC CHIP 0.1 μ F	10% 25V	<CONNECTOR>			
C732	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	CN701	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P	
C733	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V	CN702	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P	
C734	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	<DIODE>			
C735	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V	D701	8-719-159-12	DIODE RD5.15B2-T2	
C736	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	D704	8-719-002-81	DIODE 1T363	
C737	1-126-391-11	ELECT CHIP 47 μ F	20% 6.3V	<FILTER>			
C738	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	FL705	1-239-538-21	FILTER, LOW PASS	
C739	1-107-553-11	FILM CHIP 0.005 μ F	5% 16V	FL706	1-239-538-21	FILTER, LOW PASS	
C740	1-104-558-11	FILM CHIP 0.039 μ F	5% 16V	FL707	1-239-538-21	FILTER, LOW PASS	
C741	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	FL708	1-239-537-21	FILTER, LOW PASS	
C742	1-164-232-11	CERAMIC CHIP 0.01 μ F	10% 50V	FL709	1-239-537-21	FILTER, LOW PASS	
C743	1-126-191-11	ELECT 0.47 μ F	20% 50V	FL710	1-239-537-21	FILTER, LOW PASS	
C744	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	FL711	1-233-313-11	FILTER, CHIP EMI	
C745	1-126-192-11	ELECT 1 μ F	20% 50V	FL712	1-233-313-11	FILTER, CHIP EMI	
C746	1-163-227-11	CERAMIC CHIP 10pF	0.5% 50V	FL713	1-233-313-11	FILTER, CHIP EMI	
C747	1-163-251-11	CERAMIC CHIP 100pF	5% 50V	FL714	1-233-313-11	FILTER, CHIP EMI	
C748	1-163-251-11	CERAMIC CHIP 100pF	5% 50V	FL715	1-233-313-11	FILTER, CHIP EMI	
C749	1-163-251-11	CERAMIC CHIP 100pF	5% 50V	FL716	1-233-316-21	FILTER, CHIP EMI	
C751	1-126-394-11	ELECT CHIP 10 μ F	20% 16V				
C752	1-164-004-11	CERAMIC CHIP 0.1 μ F	10% 25V				
C753	1-163-038-91	CERAMIC CHIP 0.1 μ F	25V				
C754	1-164-232-11	CERAMIC CHIP 0.01 μ F	10% 50V				

B

REF. NO.	PART NO.	DESCRIPTION	REMARK
FL717	1-233-316-21	FILTER, CHIP EMI	
FL718	1-233-316-21	FILTER, CHIP EMI	
FL719	1-233-316-21	FILTER, CHIP EMI	
FL720	1-233-316-21	FILTER, CHIP EMI	
FL721	1-233-316-21	FILTER, CHIP EMI	
FL722	1-233-316-21	FILTER, CHIP EMI	
FL723	1-233-316-21	FILTER, CHIP EMI	
FL724	1-233-316-21	FILTER, CHIP EMI	
FL725	1-233-316-21	FILTER, CHIP EMI	
FL726	1-233-316-21	FILTER, CHIP EMI	
<IC>			
IC701	8-752-337-04	IC CXD1176Q	
IC702	8-752-337-04	IC CXD1176Q	
IC703	8-752-337-04	IC CXD1176Q	
IC704	8-759-073-52	IC TC74AC04F-JL	
IC708	8-752-340-52	IC CXK48324Q	
IC709	8-752-340-52	IC CXK48324Q	
IC710	8-752-340-52	IC CXK48324Q	
IC711	8-752-338-46	IC CXD1178Q	
IC712	8-752-328-71	IC CXD2000Q	
IC713	8-759-032-23	IC MC74HC74AF-T2	
IC714	8-759-011-65	IC MC74HC4053F	
IC715	8-759-929-26	IC TL431CPS	
IC716	8-759-032-43	IC MC74HC157AF-T2	
IC718	8-759-038-45	IC MC74HC4538F	
<COIL>			
L703	1-410-192-51	INDUCTOR CHIP 1uH	
L704	1-410-200-31	INDUCTOR CHIP 4.7uH	
L705	1-410-200-31	INDUCTOR CHIP 4.7uH	
L706	1-410-200-31	INDUCTOR CHIP 4.7uH	
<TRANSISTOR>			
Q701	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q702	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q703	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q704	8-729-216-22	TRANSISTOR 2SA1162-G	
Q705	8-729-216-22	TRANSISTOR 2SA1162-G	
Q706	8-729-216-22	TRANSISTOR 2SA1162-G	
Q707	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q708	8-729-216-22	TRANSISTOR 2SA1162-G	
Q709	8-729-216-22	TRANSISTOR 2SA1162-G	
Q710	8-729-216-22	TRANSISTOR 2SA1162-G	
Q711	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q712	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
<RESISTOR>			
R701	1-216-031-00	METAL GLAZE 180	5% 1/10W
R702	1-216-657-11	METAL CHIP 1.8K	0.50% 1/10W
R703	1-216-033-00	METAL GLAZE 220	5% 1/10W
R704	1-216-039-00	METAL GLAZE 390	5% 1/10W
R705	1-216-022-00	METAL GLAZE 75	5% 1/10W
R706	1-216-673-11	METAL CHIP 8.2K	0.50% 1/10W
R707	1-208-784-11	METAL CHIP 1.2K	0.50% 1/10W
R708	1-216-633-11	METAL CHIP 180	0.50% 1/10W
R709	1-216-657-11	METAL CHIP 1.8K	0.50% 1/10W
R710	1-216-033-00	METAL GLAZE 220	5% 1/10W
R711	1-216-039-00	METAL GLAZE 390	5% 1/10W
R712	1-216-022-00	METAL GLAZE 75	5% 1/10W
R713	1-216-667-11	METAL CHIP 4.7K	0.50% 1/10W
R714	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R715	1-216-633-11	METAL CHIP 180	0.50% 1/10W
R716	1-216-657-11	METAL CHIP 1.8K	0.50% 1/10W
R717	1-216-033-00	METAL GLAZE 220	5% 1/10W

REF. NO.	PART NO.	DESCRIPTION	REMARK
R718	1-216-039-00	METAL GLAZE 390	5% 1/10W
R719	1-216-022-00	METAL GLAZE 75	5% 1/10W
R720	1-216-667-11	METAL CHIP 4.7K	0.50% 1/10W
R722	1-216-033-00	METAL GLAZE 220	5% 1/10W
R723	1-216-025-91	METAL GLAZE 100	5% 1/10W
R730	1-216-025-91	METAL GLAZE 100	5% 1/10W
R731	1-216-025-91	METAL GLAZE 100	5% 1/10W
R732	1-216-025-91	METAL GLAZE 100	5% 1/10W
R733	1-216-663-11	METAL CHIP 3.3K	0.50% 1/10W
R734	1-216-659-11	METAL CHIP 2.2K	0.50% 1/10W
R735	1-216-663-11	METAL CHIP 3.3K	0.50% 1/10W
R736	1-216-635-11	METAL CHIP 220	0.50% 1/10W
R738	1-216-663-11	METAL CHIP 3.3K	0.50% 1/10W
R739	1-216-033-00	METAL GLAZE 220	5% 1/10W
R740	1-216-039-00	METAL GLAZE 390	5% 1/10W
R741	1-216-635-11	METAL CHIP 220	0.50% 1/10W
R742	1-216-639-11	METAL CHIP 330	0.50% 1/10W
R743	1-216-663-11	METAL CHIP 3.3K	0.50% 1/10W
R744	1-216-033-00	METAL GLAZE 220	5% 1/10W
R745	1-216-039-00	METAL GLAZE 390	5% 1/10W
R746	1-216-635-11	METAL CHIP 220	0.50% 1/10W
R747	1-216-639-11	METAL CHIP 330	0.50% 1/10W
R748	1-216-663-11	METAL CHIP 3.3K	0.50% 1/10W
R749	1-216-033-00	METAL GLAZE 220	5% 1/10W
R750	1-216-039-00	METAL GLAZE 390	5% 1/10W
R752	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R753	1-216-009-00	METAL GLAZE 22	5% 1/10W
R756	1-216-025-91	METAL GLAZE 100	5% 1/10W
R757	1-216-009-00	METAL GLAZE 22	5% 1/10W
R758	1-216-009-00	METAL GLAZE 22	5% 1/10W
R759	1-216-025-91	METAL GLAZE 100	5% 1/10W
R760	1-216-025-91	METAL GLAZE 100	5% 1/10W
R761	1-216-051-00	METAL GLAZE 1.2K	5% 1/10W
R762	1-216-053-00	METAL GLAZE 1.5K	5% 1/10W
R763	1-216-025-91	METAL GLAZE 100	5% 1/10W
R764	1-216-651-11	METAL CHIP 1K	0.50% 1/10W
R765	1-216-119-00	METAL GLAZE 820K	5% 1/10W
R766	1-216-051-00	METAL GLAZE 1.2K	5% 1/10W
R767	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R768	1-216-045-00	METAL GLAZE 680	5% 1/10W
R769	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R770	1-216-105-91	METAL GLAZE 220K	5% 1/10W
R771	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R773	1-216-047-91	METAL GLAZE 820	5% 1/10W
R774	1-216-639-11	METAL CHIP 330	0.50% 1/10W
R775	1-216-047-91	METAL GLAZE 820	5% 1/10W
R776	1-216-047-91	METAL GLAZE 820	5% 1/10W
R777	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R778	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R779	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R780	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R781	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R782	1-216-659-11	METAL CHIP 2.2K	0.50% 1/10W
R783	1-216-661-11	METAL CHIP 2.7K	0.50% 1/10W
R784	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R785	1-216-659-11	METAL CHIP 2.2K	0.50% 1/10W
R786	1-216-661-11	METAL CHIP 2.7K	0.50% 1/10W
R787	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R788	1-208-641-11	METAL CHIP 390	0.50% 1/10W
R789	1-216-645-11	METAL CHIP 560	0.50% 1/10W
R790	1-208-641-11	METAL CHIP 390	0.50% 1/10W
R791	1-216-645-11	METAL CHIP 560	0.50% 1/10W
R792	1-208-641-11	METAL CHIP 390	0.50% 1/10W
R793	1-216-645-11	METAL CHIP 560	0.50% 1/10W
R794	1-208-824-11	METAL CHIP 56K	0.50% 1/10W
R795	1-208-810-11	METAL CHIP 15K	0.50% 1/10W

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
* A-1195-102-A P BOARD, COMPLETE *****							
<CAPACITOR>							
C901	1-102-129-00	CERAMIC	0.01 μ F 10% 50V	D912	7-685-647-79	SCREW +BVT 3X10 TYPE2 IT-3; D911	
C902	1-126-942-61	ELECT	1000 μ F 20% 25V	D913	8-719-110-31	DIODE RD12ESB2	
C903	1-126-968-11	ELECT	100 μ F 20% 50V	D914	8-719-109-89	DIODE RD5.6ESB2	
C904	1-136-177-00	FILM	1 μ F 5% 50V	D915	8-719-109-89	DIODE RD5.6ESB2	
C905	1-124-902-00	ELECT	0.47 μ F 20% 50V	D916	8-719-911-19	DIODE 1SS119-25	
C906	1-126-933-11	ELECT	100 μ F 20% 16V	D917	8-719-109-85	DIODE RD5.1ESB2	
C907	1-130-728-00	FILM	0.0022 μ F 5% 50V	<FERRITE BEAD>			
C908	1-102-129-00	CERAMIC	0.01 μ F 10% 50V	FB901	1-410-397-21	FERRITE BEAD INDUCTOR 1.1 μ H	
C909	1-126-942-61	ELECT	1000 μ F 20% 25V	FB902	1-410-397-21	FERRITE BEAD INDUCTOR 1.1 μ H	
C910	1-106-220-00	MYLAR	0.1 μ F 10% 100V	FB903	1-410-397-21	FERRITE BEAD INDUCTOR 1.1 μ H	
C912	1-106-387-00	MYLAR	0.068 μ F 10% 200V	<IC>			
C913	1-123-024-21	ELECT	33 μ F 160V	IC901	8-759-980-58	IC TDA8172	
C914	1-106-383-00	MYLAR	0.047 μ F 10% 200V	IC903	7-682-949-01	SCREW +PSW 3X10; IC901	
C915	1-136-155-00	FILM	0.015 μ F 5% 50V	IC904	8-759-916-25	IC SNT74HC32AN	
C917	1-126-952-11	ELECT	1000 μ F 20% 16V	IC904	8-759-145-58	IC MPC4558C	
C918	1-126-952-11	ELECT	1000 μ F 20% 16V	<COIL>			
C919	1-136-165-00	FILM	0.1 μ F 5% 50V	L901	1-406-818-11	COIL, CHOKE 2.2mH	
C920	1-136-165-00	FILM	0.1 μ F 5% 50V	L902	1-406-857-11	COIL, HORIZONTAL LINEARITY (HLC)	
C921	1-136-165-00	FILM	0.1 μ F 5% 50V	L903	1-410-117-31	INDUCTOR 0.68mH	
C922	1-104-966-11	ELECT	10 μ F 0 200V	<TRANSISTOR>			
C923	1-136-541-11	FILM	1.5 μ F 5% 200V	Q901	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C924	1-136-173-00	FILM	0.47 μ F 5% 50V	Q902	8-729-030-03	TRANSISTOR DTC144ESA-TP	
C925	1-136-155-00	FILM	0.015 μ F 5% 50V	Q903	8-729-015-28	TRANSISTOR IRFB630GS	
C926	1-126-105-11	ELECT	1000 μ F 20% 25V	Q904	8-729-119-76	TRANSISTOR 2SA1175-HFE	
C927	1-106-351-00	MYLAR	0.0022 μ F 10% 100V	Q905	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C928	1-136-750-11	FILM	0.0047 μ F 3% 2KV	Q906	8-729-141-83	TRANSISTOR 2SB1094-LK	
C929	1-161-754-00	CERAMIC	0.001 μ F 10% 2KV	Q907	7-682-949-01	SCREW +PSW 3X10; Q906	
C930	1-126-967-11	ELECT	47 μ F 20% 16V	Q907	8-729-209-15	TRANSISTOR 2SD2012	
C931	1-102-129-00	CERAMIC	0.01 μ F 10% 50V	Q908	7-682-948-01	SCREW +PSW 3X8; Q907	
C932	1-162-558-11	CERAMIC	100 μ F 10% 2KV	Q908	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C933	1-136-553-11	FILM	0.0015 μ F 5% 630V	Q909	8-729-119-76	TRANSISTOR 2SA1175-HFE	
C934	1-126-967-11	ELECT	47 μ F 20% 16V	Q910	8-729-820-73	TRANSISTOR 2SC3746	
C935	1-162-558-11	CERAMIC	100 μ F 10% 2KV	Q911	8-729-821-07	TRANSISTOR 2SC3997CA	
C936	1-102-129-00	CERAMIC	0.01 μ F 10% 50V	Q912	4-363-414-00	SPACER, MICA	
C937	1-126-953-11	ELECT	100 μ F 20% 16V	Q912	7-682-950-01	SCREW +PSW 3X12	
C938	1-102-129-00	CERAMIC	0.01 μ F 10% 50V	Q913	8-729-140-96	TRANSISTOR 2SD774-34	
C939	1-102-129-00	CERAMIC	0.01 μ F 10% 50V	Q913	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C940	1-129-716-00	FILM	0.015 μ F 10% 200V	Q914	8-729-119-78	TRANSISTOR 2SA1175-HFE	
C941	1-126-952-11	ELECT	1000 μ F 20% 16V	<RESISTOR>			
C942	1-126-952-11	ELECT	1000 μ F 20% 16V	R901	1-215-425-00	METAL 1.5K 1% 1/4W	
C943	1-136-541-11	FILM	1.5 μ F 5% 200V	R902	1-249-449-11	CARBON 1.5 5% 1/4W	F
<CONNECTOR>				R903	1-249-417-11	CARBON 1K 5% 1/4W	F
CN901	*1-564-509-11	PLUG, CONNECTOR 6P		R904	1-249-449-11	CARBON 1.5 5% 1/4W	F
CN902	*1-564-513-11	PLUG, CONNECTOR 10P		R905	1-249-449-11	CARBON 1.5 5% 1/4W	F
CN903	*1-573-986-11	PIN, CONNECTOR (PC BOARD) 5P		R906	1-249-425-11	CARBON 4.7K 5% 1/4W	F
CN904	*1-564-505-11	PLUG, CONNECTOR 2P		R907	1-216-371-00	METAL OXIDE 1.5 5% 2W	F
CN905	*1-568-536-11	PLUG (MINIATURE DY) 6P		R908	1-216-371-00	METAL OXIDE 1.5 5% 2W	F
<DIODE>				R909	1-249-435-11	CARBON 33K 5% 1/4W	F
D903	8-719-911-19	DIODE 1SS119-25		R910	1-216-453-00	METAL OXIDE 270 5% 2W	F
D904	8-719-110-31	DIODE RD9.1ESB2		R911	1-249-417-11	CARBON 1K 5% 1/4W	F
D905	8-719-939-07	DIODE ERD38-06		R912	1-249-441-11	CARBON 100K 5% 1/4W	F
D906	8-719-988-11	DIODE FED3		R913	1-249-429-11	CARBON 10K 5% 1/4W	F
D907	8-719-988-11	DIODE FED3		R914	1-247-863-91	CARBON 22K 5% 1/4W	F
D908	8-719-951-30	DIODE ERA91-02		R915	1-247-863-91	CARBON 22K 5% 1/4W	F
D909	8-719-911-19	DIODE 1SS119-25		R916	1-249-443-11	CARBON 0.47 5% 1/4W	F
D910	8-719-975-77	DIODE SB340		R917	1-247-692-11	CARBON 22 5% 1/4W	F
D911	8-719-970-89	DIODE DD30R		R918	1-247-863-91	CARBON 22K 5% 1/4W	F
* 4-043-154-01 HOLDER, IC; D911				R919	1-249-427-11	CARBON 6.8K 5% 1/4W	F
4-363-414-00 SPACER, MICA; D911				R920	1-249-441-11	CARBON 100K 5% 1/4W	F

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R921	1-249-441-11	CARBON 100K	5% 1/4W	C6	1-163-031-11	CERAMIC CHIP 0.01μF	5% 50V
R922	1-249-470-11	CARBON 0.47	5% 1/2W	C7	1-104-539-11	FILM CHIP 0.001μF	5% 50V
R923	1-249-470-11	CARBON 0.47	5% 1/2W	C8	1-104-539-11	FILM CHIP 0.001μF	5% 50V
R924	1-249-425-11	CARBON 10K	5% 1/4W	C9	1-163-031-11	CERAMIC CHIP 0.01μF	5% 50V
R925	1-249-425-11	CARBON 4.7K	5% 1/4W	C10	1-104-539-11	FILM CHIP 0.001μF	5% 50V
R926	1-249-437-11	CARBON 47K	5% 1/4W	C11	1-104-551-11	FILM CHIP 0.01μF	5% 16V
R927	1-249-417-11	CARBON 1K	5% 1/4W	C12	1-163-019-00	CERAMIC CHIP 0.0068μF	10% 50V
R928	1-249-417-11	CARBON 1K	5% 1/4W	C13	1-124-903-11	ELECT 1μF	20% 50V
R929	1-249-402-11	CARBON 56	5% 1/4W	C14	1-104-539-11	FILM CHIP 0.001μF	5% 50V
R930	1-249-402-11	CARBON 56	5% 1/4W	C15	1-104-539-11	FILM CHIP 0.001μF	5% 50V
R931	1-249-417-11	CARBON 1K	5% 1/4W	C17	1-163-125-00	CERAMIC CHIP 220pF	5% 50V
R932	1-249-417-11	CARBON 1K	5% 1/4W	C18	1-126-967-11	ELECT 47μF	20% 16V
R933	1-216-393-00	METAL OXIDE 2.2	5% 3W	C19	1-126-998-11	ELECT CHIP 4.7μF	20% 35V
R934	1-216-424-11	METAL OXIDE 39	5% 1W	C21	1-226-964-11	ELECT 10μF	20% 50V
R935	1-215-912-11	METAL OXIDE 150	5% 3W	C22	1-126-393-11	ELECT CHIP 33μF	20% 10V
R936	1-247-807-31	CARBON 100	5% 1/4W	C23	1-124-925-11	ELECT 2.2μF	20% 50V
R937	1-249-401-11	CARBON 47	5% 1/4W	C24	1-126-965-11	ELECT 22μF	20% 50V
R938	1-249-421-11	CARBON 2.2K	5% 1/4W	C25	1-126-393-11	ELECT CHIP 33μF	20% 10V
R939	1-216-448-11	METAL OXIDE 39	5% 2W	C26	1-124-925-11	ELECT 2.2μF	20% 50V
R940	1-249-476-11	CARBON 1.5	5% 1/2W	C27	1-163-249-11	CERAMIC CHIP 82pF	5% 50V
R941	1-216-399-00	METAL OXIDE 6.8	5% 3W	C28	1-163-011-11	CERAMIC CHIP 0.0015μF	10% 50V
R942	1-216-399-00	METAL OXIDE 6.8	5% 3W	C29	1-163-011-11	CERAMIC CHIP 0.0015μF	10% 50V
R943	1-216-399-00	METAL OXIDE 6.8	5% 3W	C30	1-163-031-11	CERAMIC CHIP 0.01μF	5% 50V
R944	1-216-447-00	METAL OXIDE 27	5% 2W	C31	1-104-541-11	FILM CHIP 0.001μF	5% 50V
R945	1-249-429-11	CARBON 10K	5% 1/4W	C32	1-126-393-11	ELECT CHIP 33μF	20% 10V
R946	1-249-429-11	CARBON 10K	5% 1/4W	C33	1-126-391-11	ELECT CHIP 47μF	20% 6.3V
R947	1-249-429-11	CARBON 10K	5% 1/4W	C34	1-163-031-11	CERAMIC CHIP 0.01μF	5% 50V
R948	1-249-406-11	CARBON 120	5% 1/4W	C35	1-126-391-11	ELECT CHIP 47μF	20% 6.3V
R949	1-249-421-11	CARBON 2.2K	5% 1/4W	C36	1-163-031-11	CERAMIC CHIP 0.01μF	5% 50V
R950	1-247-791-91	CARBON 22	5% 1/4W	C37	1-126-393-11	ELECT CHIP 33μF	20% 10V
R951	1-249-428-11	CARBON 8.2K	5% 1/4W	C38	1-165-319-11	CERAMIC CHIP 0.1μF	50V
R952	1-247-807-31	CARBON 100	5% 1/4W	C39	1-165-319-11	CERAMIC CHIP 0.1μF	50V
R953	1-249-435-11	CARBON 33K	5% 1/4W	C40	1-126-393-11	ELECT CHIP 33μF	20% 10V
R954	1-249-434-11	CARBON 27K	5% 1/4W	C41	1-126-393-11	ELECT CHIP 33μF	20% 10V
R955	1-249-423-11	CARBON 3.3K	5% 1/4W	C42	1-163-031-11	CERAMIC CHIP 0.01μF	5% 50V
R956	1-249-423-11	CARBON 3.3K	5% 1/4W	C43	1-126-396-11	ELECT CHIP 47μF	20% 16V
R957	1-249-425-11	CARBON 4.7K	5% 1/4W	C44	1-163-031-11	CERAMIC CHIP 0.01μF	5% 50V
R958	1-249-421-11	CARBON 2.2K	5% 1/4W	C45	1-126-391-11	ELECT CHIP 47μF	20% 6.3V
R959	1-249-425-11	CARBON 4.7K	5% 1/4W	C46	1-163-031-11	CERAMIC CHIP 0.01μF	5% 50V
R960	1-247-688-11	CARBON 10	5% 1/4W	C47	1-126-394-11	ELECT CHIP 10μF	20% 16V
R961	1-247-688-11	CARBON 10	5% 1/4W	C48	1-126-391-11	ELECT CHIP 47μF	20% 6.3V
R962	1-247-863-91	CARBON 22K	5% 1/4W	C49	1-163-031-11	CERAMIC CHIP 0.01μF	5% 50V
R963	1-249-441-11	CARBON 100K	5% 1/4W	C50	1-164-232-11	CERAMIC CHIP 0.01μF	10% 50V
R964	1-249-421-11	CARBON 2.2K	5% 1/4W	C52	1-163-031-11	CERAMIC CHIP 0.01μF	5% 50V
R965	1-249-419-11	CARBON 1.5K	5% 1/4W	C53	1-163-031-11	CERAMIC CHIP 0.01μF	5% 50V
<VARIABLE RESISTOR>							
RV901	1-228-994-00	RES, ADJ, CARBON 10K		C54	1-126-393-11	ELECT CHIP 33μF	20% 10V
<TRANSFORMER>							
T901	1-437-207-11	TRANSFORMER, FERRITE (HOT)		C55	1-126-393-11	ELECT CHIP 33μF	20% 10V
T902	1-473-853-11	TRANSFORMER, FERRITE (HDT)		C56	1-126-393-11	ELECT CHIP 33μF	20% 10V

* A-1297-663-A BOARD, COMPLETE							

7-685-648-79 SCREW +BVTP 3X12 TYPE2 IT-3							
<CAPACITOR>							
C1	1-104-665-11	ELECT 100μF	20% 25V	C69	1-163-141-00	CERAMIC CHIP 0.001μF	5% 50V
C2	1-163-031-11	CERAMIC CHIP 0.01μF	5% 50V	C70	1-128-235-11	ELECT CHIP 0.47μF	20% 50V
C3	1-163-031-11	CERAMIC CHIP 0.01μF	5% 50V	C71	1-163-129-00	CERAMIC CHIP 330pF	5% 50V
C4	1-126-396-11	ELECT CHIP 47μF	20% 16V	C72	1-163-243-11	CERAMIC CHIP 47pF	5% 50V
C5	1-104-665-11	ELECT 100μF	20% 25V	C73	1-163-129-00	CERAMIC CHIP 330pF	5% 50V

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C78	1-164-232-11	CERAMIC CHIP 0.01μF	10% 50V	C1032	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C79	1-164-232-11	CERAMIC CHIP 0.01μF	10% 50V	C1033	1-126-391-11	ELECT CHIP 47μF	20% 6.3V
C80	1-126-391-11	ELECT CHIP 47μF	20% 6.3V	C1034	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C81	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1035	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C82	1-164-232-11	CERAMIC CHIP 0.01μF	10% 50V	C1036	1-126-391-11	ELECT CHIP 47μF	20% 6.3V
C83	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1037	1-126-398-11	ELECT CHIP 4.7μF	20% 35V
C84	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1038	1-126-396-11	ELECT CHIP 47μF	20% 16V
C85	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1039	1-126-398-11	ELECT CHIP 4.7μF	20% 35V
C86	1-163-025-11	CERAMIC CHIP 0.001μF	50V	C1040	1-126-394-11	ELECT CHIP 10μF	20% 16V
C87	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1041	1-126-398-11	ELECT CHIP 4.7μF	20% 35V
C88	1-163-099-00	CERAMIC CHIP 18pF	5% 50V	C1042	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C89	1-163-025-11	CERAMIC CHIP 0.001μF	50V	C1043	1-126-391-11	ELECT CHIP 47μF	20% 6.3V
C90	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1044	1-126-391-11	ELECT CHIP 47μF	20% 6.3V
C91	1-163-009-11	CERAMIC CHIP 0.001μF	10% 50V	C1045	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C92	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1046	1-126-394-11	ELECT CHIP 10μF	20% 16V
C93	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1047	1-126-394-11	ELECT CHIP 10μF	20% 16V
C94	1-126-396-11	ELECT CHIP 47μF	20% 16V	C1048	1-126-398-11	ELECT CHIP 4.7μF	20% 35V
C95	1-126-394-11	ELECT CHIP 10μF	20% 16V	C1049	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C96	1-126-394-11	ELECT CHIP 10μF	20% 16V	C1050	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C97	1-126-394-11	ELECT CHIP 10μF	20% 16V	C1051	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C98	1-126-394-11	ELECT CHIP 10μF	20% 16V	C1052	1-126-391-11	ELECT CHIP 47μF	20% 6.3V
C99	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1053	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C100	1-126-394-11	ELECT CHIP 10μF	20% 16V	C1054	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C101	1-126-394-11	ELECT CHIP 10μF	20% 16V	C1055	1-126-391-11	ELECT CHIP 47μF	20% 6.3V
C102	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1056	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C103	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1057	1-126-396-11	ELECT CHIP 47μF	20% 16V
C104	1-126-916-11	ELECT 1000μF	20% 6.3V	C1058	1-164-005-11	CERAMIC CHIP 0.47μF	25V
C105	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1059	1-126-396-11	ELECT CHIP 47μF	20% 16V
C106	1-163-249-11	CERAMIC CHIP 82pF	5% 50V	C1060	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C107	1-126-391-11	ELECT CHIP 47μF	20% 6.3V	C1061	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C108	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1062	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C109	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1063	1-164-005-11	CERAMIC CHIP 0.47μF	25V
C110	1-126-391-11	ELECT CHIP 47μF	20% 6.3V	C1064	1-126-391-11	ELECT CHIP 47μF	20% 6.3V
C111	1-126-391-11	ELECT CHIP 47μF	20% 6.3V	C1065	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C112	1-126-933-11	ELECT 100μF	20% 16V	C1066	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C113	1-126-933-11	ELECT 470μF	20% 16V	C1067	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C115	1-126-933-11	ELECT 100μF	20% 16V	C1068	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C116	1-163-113-00	CERAMIC CHIP 68pF	5% 50V	C1069	1-126-396-11	ELECT CHIP 47μF	20% 16V
C117	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1070	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C118	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1071	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1001	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1072	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1002	1-126-396-11	ELECT CHIP 47μF	20% 16V	C1073	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1003	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1074	1-126-396-11	ELECT CHIP 47μF	20% 16V
C1004	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1075	1-126-393-11	ELECT CHIP 33μF	20% 10V
C1005	1-126-391-11	ELECT CHIP 47μF	20% 6.3V	C1076	1-126-393-11	ELECT CHIP 33μF	20% 10V
C1006	1-126-394-11	ELECT CHIP 10μF	20% 16V	C1077	1-126-393-11	ELECT CHIP 33μF	20% 10V
C1007	1-126-393-11	ELECT CHIP 33μF	20% 10V	C1078	1-163-809-11	CERAMIC CHIP 0.047μF	10% 25V
C1008	1-126-393-11	ELECT CHIP 33μF	20% 10V	C1079	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1009	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1080	1-126-393-11	ELECT CHIP 33μF	20% 10V
C1010	1-126-393-11	ELECT CHIP 33μF	20% 10V	C1081	1-126-393-11	ELECT CHIP 33μF	20% 10V
C1011	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1082	1-126-393-11	ELECT CHIP 33μF	20% 10V
C1013	1-126-393-11	ELECT CHIP 33μF	20% 10V	C1083	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1014	1-126-394-11	ELECT CHIP 10μF	20% 16V	C1084	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1015	1-126-393-11	ELECT CHIP 33μF	20% 10V	C1085	1-126-396-11	ELECT CHIP 47μF	20% 16V
C1016	1-126-393-11	ELECT CHIP 33μF	20% 10V	C1086	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1017	1-126-394-11	ELECT CHIP 10μF	20% 16V	C1087	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1019	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1088	1-163-809-11	CERAMIC CHIP 0.047μF	10% 25V
C1021	1-126-396-11	ELECT CHIP 47μF	20% 16V	C1089	1-163-809-11	CERAMIC CHIP 0.047μF	10% 25V
C1022	1-126-391-11	ELECT CHIP 47μF	20% 6.3V	C1090	1-163-999-11	CERAMIC CHIP 0.033μF	10% 25V
C1023	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1091	1-126-396-11	ELECT CHIP 47μF	20% 16V
C1024	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1092	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1025	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1093	1-163-809-11	CERAMIC CHIP 0.047μF	10% 25V
C1026	1-126-396-11	ELECT CHIP 47μF	20% 16V	C1094	1-163-809-11	CERAMIC CHIP 0.033μF	10% 25V
C1027	1-126-394-11	ELECT CHIP 10μF	20% 16V	C1095	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1028	1-126-394-11	ELECT CHIP 10μF	20% 16V	C1096	1-163-989-11	CERAMIC CHIP 0.033μF	10% 25V
C1029	1-126-398-11	ELECT CHIP 4.7μF	20% 35V	C1097	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1030	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1098	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1031	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C1100	1-163-989-11	CERAMIC CHIP 0.033μF	10% 25V
				C1101	1-164-489-11	CERAMIC CHIP 0.22μF	10% 16V

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C1102	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C2038	1-126-401-11	ELECT CHIP 1μF	20% 50V
C1103	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C2039	1-104-562-11	FILM CHIP 0.082μF	5% 16V
C1104	1-163-113-00	CERAMIC CHIP 68pF	5% 50V	C2040	1-164-232-11	CERAMIC CHIP 0.01μF	10% 50V
C1105	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C2041	1-163-133-00	CERAMIC CHIP 470pF	5% 50V
C1106	1-163-113-00	CERAMIC CHIP 68pF	5% 50V	C2042	1-104-555-11	FILM CHIP 0.0022μF	5% 16V
C1107	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C2043	1-164-232-11	CERAMIC CHIP 0.01μF	10% 50V
C1108	1-163-129-00	CERAMIC CHIP 330pF	5% 50V	C2044	1-164-232-11	CERAMIC CHIP 0.01μF	10% 50V
C1111	1-163-251-11	CERAMIC CHIP 100pF	5% 50V	C2045	1-104-540-11	FILM CHIP 0.0012μF	5% 50V
C1112	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C2046	1-126-398-11	ELECT CHIP 4.7μF	20% 35V
C1113	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C2047	1-164-232-11	CERAMIC CHIP 0.01μF	10% 50V
C1114	1-163-038-91	CERAMIC CHIP 0.1μF	25V	C2048	1-104-545-11	FILM CHIP 0.0033μF	5% 16V
C1115	1-163-038-91	CERAMIC CHIP 0.1μF	25V	C2049	1-126-401-11	ELECT CHIP 1μF	20% 50V
C1116	1-163-038-91	CERAMIC CHIP 0.1μF	25V	C2050	1-104-539-11	FILM CHIP 0.001μF	5% 50V
C1117	1-163-038-91	CERAMIC CHIP 0.1μF	25V	C2051	1-104-540-11	FILM CHIP 0.0012μF	5% 50V
C1118	1-163-038-91	CERAMIC CHIP 0.1μF	25V	C2052	1-163-121-00	CERAMIC CHIP 150pF	5% 50V
C1119	1-163-038-91	CERAMIC CHIP 0.1μF	25V	C2053	1-163-133-00	CERAMIC CHIP 470pF	5% 50V
C1120	1-163-038-91	CERAMIC CHIP 0.1μF	25V	C2054	1-126-396-11	ELECT CHIP 47μF	20% 16V
C1121	1-163-038-91	CERAMIC CHIP 0.1μF	25V	C2055	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1122	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C2056	1-126-396-11	ELECT CHIP 47μF	20% 16V
C1123	1-163-117-00	CERAMIC CHIP 100pF	5% 50V	C2057	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1124	1-163-038-91	CERAMIC CHIP 0.1μF	25V	C2058	1-126-193-11	ELECT 1μF	20% 50V
C1125	1-128-594-11	ELECT CHIP 1μF	20% 50V	C2059	1-164-232-11	CERAMIC CHIP 0.01μF	10% 50V
C1126	1-136-173-00	FILM 0.47μF	5% 50V	C2060	1-126-601-11	ELECT 2.2μF	20% 50V
C1127	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C2061	1-126-601-11	ELECT 2.2μF	20% 50V
C1128	1-128-235-11	ELECT CHIP 0.47μF	20% 50V	C2062	1-126-391-11	ELECT CHIP 47μF	20% 6.3V
C1129	1-126-390-11	ELECT CHIP 22μF	20% 6.3V	C2063	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C1130	1-163-121-00	CERAMIC CHIP 150pF	5% 50V	C2064	1-163-235-11	CERAMIC CHIP 22pF	5% 50V
C1131	1-163-121-00	CERAMIC CHIP 150pF	5% 50V	C2065	1-163-235-11	CERAMIC CHIP 22pF	5% 50V
C1132	1-163-121-00	CERAMIC CHIP 150pF	5% 50V	C2066	1-104-665-11	ELECT 100μF	20% 25V
C1133	1-126-924-11	ELECT 330μF	20% 6.3V	C2067	1-163-038-91	CERAMIC CHIP 0.1μF	25V
C1134	1-126-924-11	ELECT 330μF	20% 6.3V	C2068	1-163-009-11	CERAMIC CHIP 0.001μF	10% 50V
C2001	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C2069	1-163-125-00	CERAMIC CHIP 220pF	5% 50V
C2002	1-126-967-11	ELECT 47μF	20% 50V	C2070	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C2003	1-126-396-11	ELECT CHIP 47μF	20% 16V	C2071	1-163-129-00	CERAMIC CHIP 330pF	5% 50V
C2004	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C2072	1-163-038-91	CERAMIC CHIP 0.1μF	25V
C2005	1-126-963-11	ELECT 4.7μF	20% 50V	C2073	1-163-038-91	CERAMIC CHIP 0.1μF	25V
C2006	1-126-398-11	ELECT CHIP 4.7μF	20% 35V	C2074	1-163-038-91	CERAMIC CHIP 0.1μF	25V
C2007	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C2075	1-163-038-91	CERAMIC CHIP 0.1μF	25V
C2008	1-163-231-11	CERAMIC CHIP 15pF	5% 50V	C2076	1-164-344-11	CERAMIC CHIP 0.068μF	10% 25V
C2009	1-163-097-00	CERAMIC CHIP 15pF	5% 50V	C2077	1-136-157-00	FILM 0.022μF	5% 50V
C2010	1-126-391-11	ELECT CHIP 47μF	20% 6.3V	C3001	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C2011	1-104-563-11	FILM CHIP 0.1μF	5% 16V	C3002	1-104-664-11	ELECT 47μF	20% 25V
C2012	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C3003	1-104-665-11	ELECT 100μF	20% 25V
C2013	1-163-009-11	CERAMIC CHIP 0.001μF	10% 50V	C3004	1-126-932-11	ELECT 1000μF	20% 16V
C2014	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C3005	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C2015	1-126-391-11	ELECT CHIP 47μF	20% 6.3V	C3006	1-126-396-11	ELECT CHIP 47μF	20% 16V
C2016	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C3007	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C2017	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C3008	1-126-394-11	ELECT CHIP 10μF	20% 16V
C2018	1-126-391-11	ELECT CHIP 47μF	20% 6.3V	C3009	1-126-398-11	ELECT CHIP 4.7μF	20% 35V
C2019	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C3010	1-163-017-00	CERAMIC CHIP 0.0047μF	10% 50V
C2020	1-163-009-11	CERAMIC CHIP 0.001μF	10% 50V	C3011	1-126-394-11	ELECT CHIP 10μF	20% 16V
C2021	1-163-239-11	CERAMIC CHIP 33pF	5% 50V	C3012	1-126-603-11	ELECT 4.7μF	20% 35V
C2022	1-126-391-11	ELECT CHIP 47μF	20% 6.3V	C3013	1-106-383-00	MYLAR 0.047μF	10% 100V
C2023	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C3014	1-126-396-11	ELECT CHIP 47μF	20% 16V
C2024	1-104-557-11	FILM CHIP 0.033μF	5% 16V	C3015	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C2025	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C3019	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C2026	1-104-563-11	FILM CHIP 0.1μF	5% 16V	C3020	1-126-396-11	ELECT CHIP 47μF	20% 16V
C2027	1-163-251-11	CERAMIC CHIP 100pF	5% 50V	C3023	1-104-666-11	ELECT 220μF	20% 25V
C2028	1-104-551-11	FILM CHIP 0.01μF	5% 16V	C3024	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C2029	1-126-401-11	ELECT CHIP 1μF	20% 50V	C3025	1-102-212-00	CERAMIC 820pF	10% 500V
C3030	1-104-559-11	FILM CHIP 0.047μF	5% 16V	C3026	1-126-395-11	ELECT 22μF	20% 16V
C3031	1-126-401-11	ELECT CHIP 1μF	20% 50V	C3027	1-126-396-11	ELECT CHIP 47μF	20% 16V
C3032	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C3028	1-163-038-91	CERAMIC CHIP 0.1μF	25V
C3033	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C3029	1-164-232-11	CERAMIC CHIP 0.01μF	10% 50V
C3034	1-126-391-11	ELECT CHIP 47μF	20% 6.3V	C3030	1-164-182-11	CERAMIC CHIP 0.0033μF	10% 50V
C3035	1-126-967-11	ELECT 47μF	20% 16V	C3031	1-163-031-11	CERAMIC CHIP 0.001μF	50V
C3036	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C3032	1-163-137-00	CERAMIC CHIP 680pF	5% 50V
C3037	1-163-031-11	CERAMIC CHIP 0.01μF	50V	C3033	1-126-401-11	ELECT CHIP 1μF	20% 50V

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REF. NO.	PART NO.	DESCRIPTION	REMARK
C3034	1-126-396-11	ELECT CHIP 47 μ F	20% 16V
C3035	1-163-133-00	CERAMIC CHIP 470pF	5% 50V
C3036	1-126-401-11	ELECT CHIP 1 μ F	20% 50V
C3037	1-164-161-11	CERAMIC CHIP 0.0022 μ F	10% 50V
C3038	1-126-394-11	ELECT CHIP 10 μ F	20% 16V
C3039	1-126-396-11	ELECT CHIP 47 μ F	20% 16V
C3040	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C3041	1-126-401-11	ELECT CHIP 1 μ F	20% 50V
C3042	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C3043	1-163-038-91	CERAMIC CHIP 0.1 μ F	25V
C3044	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C3045	1-163-038-91	CERAMIC CHIP 0.1 μ F	25V
C3046	1-126-396-11	ELECT CHIP 47 μ F	20% 16V
C3047	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C3048	1-106-383-00	MYLAR 0.047 μ F	10% 200V
C3049	1-102-030-00	CERAMIC 330pF	10% 500V
C3050	1-123-024-21	ELECT 33 μ F	160V
C3051	1-136-173-00	FILM 0.47 μ F	5% 50V
C3052	1-104-553-11	FILM CHIP 0.015 μ F	5% 16V
C3053	1-102-030-00	CERAMIC 330pF	10% 500V
C3054	1-106-383-00	MYLAR 0.047 μ F	10% 100V
C3055	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C3056	1-106-347-00	MYLAR 0.0015 μ F	10% 100V
C3057	1-136-541-11	FILM 1.5 μ F	5% 200V
C3058	1-106-371-00	MYLAR 0.015 μ F	200V
C3059	1-104-489-11	FILM 820pF	3% 1.6KV
C3060	1-136-044-00	FILM 0.0017 μ F	3% 1.6KV
C3061	1-162-114-00	CERAMIC 0.0047 μ F	2KV
C3062	1-164-161-11	CERAMIC CHIP 0.0022 μ F	10% 50V
C3064	1-126-394-11	ELECT CHIP 10 μ F	20% 16V
C3066	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C3067	1-106-367-00	MYLAR 0.01 μ F	10% 200V
C3068	1-109-889-11	ELECT 1 μ F	20% 50V
C3069	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C3070	1-130-879-00	FILM 0.047 μ F	5% 50V
C3071	1-130-879-00	FILM 0.047 μ F	5% 50V
C3073	1-104-665-11	ELECT 100 μ F	20% 25V
C3074	1-126-933-11	ELECT 100 μ F	20% 16V
C3075	1-104-661-91	ELECT 330 μ F	20% 16V
C3076	1-164-004-11	CERAMIC CHIP 0.1 μ F	10% 25V
C3077	1-126-204-11	ELECT 47 μ F	20% 16V
C3078	1-126-204-11	ELECT 47 μ F	20% 16V
C3079	1-136-165-00	FILM 0.1 μ F	5% 50V
C3080	1-124-779-00	ELECT 10 μ F	20% 16V
C3081	1-106-343-00	MYLAR 0.001 μ F	10% 100V
C3082	1-104-661-91	ELECT 330 μ F	20% 16V
C3083	1-106-363-00	MYLAR 0.0068 μ F	200V
C3084	1-102-228-00	CERAMIC 470pF	10% 500V
C3085	1-124-925-11	ELECT 2.2 μ F	20% 50V
C3086	1-126-602-11	ELECT 3.3 μ F	20% 50V
C3087	1-125-204-11	ELECT 47 μ F	20% 16V
C3088	1-106-632-11	MYLAR 0.053 μ F	10% 100V
C3089	1-106-688-11	MYLAR 0.0047 μ F	10% 200V
<CONNECTOR>			
CN1	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P	
CN2	1-695-915-11	TAB (CONTACT)	
CN3	*1-564-508-11	PLUG, CONNECTOR 5P	
CN4	*1-564-510-11	PLUG, CONNECTOR 7P	
CN5	*1-564-516-11	PLUG, CONNECTOR 13P	
CN6	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P	
CN1001	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P	
CN1002	*1-564-512-11	PLUG, CONNECTOR 9P	
CN2001	*1-564-508-11	PLUG, CONNECTOR 5P	
CN2002	*1-566-055-11	PIN, CONNECTOR 3P	
CN2003	*1-564-506-11	PLUG, CONNECTOR 3P	
CN2004	*1-564-516-11	PLUG, CONNECTOR 13P	
CN3001	*1-564-506-11	PLUG, CONNECTOR 3P	

REF. NO.	PART NO.	DESCRIPTION	REMARK
CN3002	*1-564-512-11	PLUG, CONNECTOR 9P	
CN3005	*1-564-509-11	PLUG, CONNECTOR 6P	
CN3006	*1-691-096-11	PIN, CONNECTOR (PC BOARD) 8P	
CN3007	1-695-915-11	TAB (CONTACT)	
CN3008	*1-564-509-11	PLUG, CONNECTOR 6P	
CN3009	*1-564-513-11	PLUG, CONNECTOR 10P	
CN3010	*1-564-506-11	PLUG, CONNECTOR 3P	
<COMPOSITION CIRCUIT BLOCK>			
CP1	1-808-654-21	MODULE	
<DIODE>			
D1	8-719-977-32	DIODE DTZ11B	
D2	8-719-800-76	DIODE 1SS226	
D3	8-719-404-46	DIODE MA110-TX	
D5	8-719-025-07	DIODE 1SV232-TPH3	
D7	8-719-404-46	DIODE MA110	
D9	8-719-159-13	DIODE RD5.1SB3-T2	
D10	8-719-911-19	DIODE 1SS119-25	
D1001	8-719-404-46	DIODE MA110	
D1002	8-719-404-46	DIODE MA110	
D1004	8-719-158-53	DIODE RD13SB2	
D1005	8-719-158-20	DIODE RD6.2SB1	
D1007	8-719-404-46	DIODE MA110	
D1008	8-719-404-46	DIODE MA110	
D1009	8-719-404-46	DIODE MA110	
D2001	8-719-404-46	DIODE MA110	
D2003	8-719-158-20	DIODE RD6.2SB1	
D3001	8-719-977-46	DIODE DTZ13C	
D3002	8-719-302-43	DIODE EL1Z	
D3003	8-719-404-46	DIODE MA110	
D3004	8-719-404-46	DIODE MA110	
D3005	8-719-404-46	DIODE MA110	
D3006	8-719-158-49	DIODE RD12SB2	
D3007	8-719-404-46	DIODE MA110	
D3008	8-719-158-49	DIODE RD12SB2	
D3012	8-719-110-46	DIODE RD16ESB3	
D3013	8-719-911-19	DIODE 1SS119-25	
D3014	8-719-988-11	DIODE FED3D	
D3015	8-719-988-11	DIODE FED3D	
D3016	8-719-975-77	DIODE SB340	
D3017	8-719-028-72	DIODE RGP02-17EL-6433	
D3019	8-719-404-46	DIODE MA110	
D3021	8-719-158-49	DIODE RD12SB2	
D3022	8-719-158-49	DIODE RD12SB2	
D3023	8-719-404-46	DIODE MA110	
D3024	8-719-404-46	DIODE MA110	
D3025	8-719-404-46	DIODE MA110	
D3026	8-719-404-46	DIODE MA110	
D3028	8-719-404-46	DIODE MA110	
D3029	8-719-404-46	DIODE MA110	
D3030	8-719-200-02	DIODE 10E-2	
D3031	8-719-158-40	DIODE RD10SB1	
D3032	8-719-911-19	DIODE 1SS119-25	
<DELAY LINE>			
DL1	1-415-633-11	DELAY LINE, Y	
DL1001	1-415-808-11	DELAY LINE	
DL1002	1-415-808-11	DELAY LINE	
DL1003	1-415-808-11	DELAY LINE	
DL1004	1-415-809-11	DELAY LINE	
DL1005	1-415-808-11	DELAY LINE	
<FERRITE BEAD>			
FB3001	1-410-396-41	FERRITE BEAD INDUCTOR 0.45 μ H	

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
FB3002	1-410-396-41	FERRITE BEAD INDUCTOR 0.45μH		IC3006	8-759-929-26	IC TL431CPS	
		<FILTER>		IC3007	8-759-502-84	IC LM393M	
FL1	1-239-550-11	FILTER, LOW PASS		IC3008	8-759-502-80	IC LM358M	
FL2	1-239-550-11	FILTER, LOW PASS		IC3009	8-759-803-42	IC LA6500-FA	
FL3	1-239-550-11	FILTER, LOW PASS				<COIL>	
		<IC>		L1	1-410-210-21	INDUCTOR CHIP 33μH	
IC1	8-759-344-36	IC MC14538BFEL		L2	1-410-209-51	INDUCTOR CHIP 27μH	
IC2	8-759-008-82	IC MC14013BF		L3	1-410-204-31	INDUCTOR CHIP 10μH	
IC3	8-759-344-36	IC MC14538BFEL		L4	1-410-204-31	INDUCTOR CHIP 10μH	
IC4	8-759-344-36	IC MC14538BFEL		L5	1-410-200-31	INDUCTOR CHIP 4.7μH	
IC5	8-759-009-82	IC MC14011BF-T2		L6	1-410-200-31	INDUCTOR CHIP 4.7μH	
IC6	8-759-084-76	IC MM1111XF		L7	1-410-196-11	INDUCTOR CHIP 2.2μH	
IC7	8-759-084-76	IC MM1111XF		L8	1-410-212-51	INDUCTOR CHIP 47μH	
IC9	8-759-335-58	IC MM11231XFK		L9	1-410-212-51	INDUCTOR CHIP 47μH	
IC10	8-752-372-78	IC CXD202AQA		L10	1-410-199-51	INDUCTOR CHIP 3.9μH	
IC11	8-759-297-78	IC MM1231XFFK		L2001	1-412-549-11	INDUCTOR 1mH	
IC12	8-759-502-80	IC LM358M		L2002	1-410-203-51	INDUCTOR CHIP 8.2μH	
IC13	8-759-031-08	IC M51279PF		L3004	1-459-104-00	COIL, DUST CORE	
IC14	8-759-300-71	IC HD14053BFP		L3005	1-459-485-00	COIL, CHOKE	
IC15	8-752-053-21	IC CXA1211M		L3006	1-459-485-00	COIL, CHOKE	
IC16	8-752-053-21	IC CXA1211M		L3007	1-413-059-00	TRANSFORMER, FERRITE (DFT)	
IC17	8-759-239-34	IC TC74HC4538AF		L3009	1-412-547-21	INDUCTOR 680μH	
IC18	8-759-032-01	IC MC74HC00AF		L3010	1-421-465-00	COIL, FERRITE CHOKE 68μH	
IC1001	8-759-009-22	IC MC14069BF				<NEON LAMP>	
IC1002	8-759-196-70	IC M62358FP-E1		NL3001	1-519-526-11	LAMP, NEON	
IC1003	8-759-007-70	IC MC74HC158F				<TRANSISTOR>	
IC1004	8-752-053-21	IC CXA1211M		Q1	7-682-949-01	SCREW +PSW 3X10	
IC1005	8-759-297-78	IC MM1231XFFK		Q1	8-729-021-82	TRANSISTOR 2SD2396K	
IC1007	8-752-053-21	IC CXA1211M		Q2	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1008	8-759-008-67	IC MC14066BF		Q3	8-729-216-22	TRANSISTOR 2SA1162-G	
IC1009	8-759-008-67	IC MC14066BF		Q4	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1010	8-752-053-21	IC CXA1211M		Q5	8-729-216-22	TRANSISTOR 2SA1162-G	
IC1011	8-759-196-70	IC M62358FP-E1		Q6	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1012	8-759-300-71	IC HD14053BFP		Q7	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1013	8-759-300-71	IC HD14053BFP		Q8	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1014	8-759-302-80	IC LM358M		Q9	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1015	8-759-297-78	IC MM1231XFFK		Q10	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1016	8-752-067-05	IC CXA1739S		Q11	8-729-216-22	TRANSISTOR 2SA1162-G	
IC1017	8-759-239-34	IC TC74HC4538AF		Q12	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1018	8-759-502-84	IC LM393M		Q13	8-729-216-22	TRANSISTOR 2SA1162-G	
IC1019	8-759-239-34	IC TC74HC4538AF		Q14	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1022	8-752-054-80	IC CXA1521M		Q15	8-729-216-22	TRANSISTOR 2SA1162-G	
IC1023	8-752-054-80	IC CXA1521M		Q16	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC2001	8-759-701-88	IC NIM7912FA		Q17	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC2002	8-759-701-84	IC NIM7905FA		Q18	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC2003	1-540-044-11	SOCKET, IC		Q19	8-729-216-22	TRANSISTOR 2SA1162-G	
IC2003	8-759-353-20	IC HD6473257P10-μFIE		Q20	8-729-216-22	TRANSISTOR 2SA1162-G	
IC2004	8-759-162-80	IC MM11708BF		Q21	8-729-216-22	TRANSISTOR 2SA1162-G	
IC2005	8-759-163-78	IC NM24C04EM8-FL63		Q22	8-729-216-22	TRANSISTOR 2SA1162-G	
IC2006	8-759-163-78	IC NM24C04EM8-FL63		Q23	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC2007	8-759-032-26	IC MC74HC125AF		Q24	8-729-216-22	TRANSISTOR 2SA1162-G	
IC2008	8-752-065-79	IC CXA1470AM-T6		Q25	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC2009	8-759-100-96	IC μPC4558G2		Q26	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC2010	8-759-158-86	IC CXA8021M-T6		Q27	8-729-216-22	TRANSISTOR 2SA1162-G	
IC2011	8-759-502-80	IC LM358M		Q28	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC2012	8-759-008-67	IC MC14066BF		Q35	8-729-027-59	TRANSISTOR DTC144EKA-T146	
IC2013	8-759-158-84	IC CXA1543M-T6		Q36	8-729-216-22	TRANSISTOR 2SA1162-G	
IC2014	8-759-262-59	IC μPD6451AGT-632-E2		Q37	8-729-216-22	TRANSISTOR 2SA1162-G	
IC2015	8-759-196-70	IC M62358FP-E1		Q38	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC2016	8-759-502-84	IC LM393M		Q39	8-729-141-53	TRANSISTOR 2SK94-X2X3X4	
IC2020	8-759-032-25	IC MC74HC74AF-T2		Q40	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC3001	8-759-420-04	IC AN5265		Q41	8-729-141-53	TRANSISTOR 2SK94-X2X3X4	
IC3003	8-759-158-82	IC CXA1544M-T6					
IC3004	8-759-009-82	IC MC14011BF-T2					
IC3005	8-759-929-26	IC TL431CPS					

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
Q42	8-729-027-59	TRANSISTOR DTC144EKA-T146		Q1054	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q43	8-729-216-22	TRANSISTOR 2SA1162-G		Q1055	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q44	8-729-216-22	TRANSISTOR 2SA1162-G		Q1056	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q45	8-729-216-22	TRANSISTOR 2SA1162-G		Q1057	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q46	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q1058	8-729-216-22	TRANSISTOR 2SA1162-G	
Q47	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q1059	8-729-216-22	TRANSISTOR 2SA1162-G	
Q48	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q1060	8-729-216-22	TRANSISTOR 2SA1162-G	
Q49	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q1061	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q50	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q1062	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q51	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q1063	8-729-216-22	TRANSISTOR 2SA1162-G	
Q52	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q1064	8-729-216-22	TRANSISTOR 2SA1162-G	
Q53	8-729-027-59	TRANSISTOR DTC144EKA-T146		Q1065	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q54	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q1066	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q55	8-729-313-42	TRANSISTOR 2SD1134-C		Q1067	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q56	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q1068	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q57	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q1069	8-729-119-76	TRANSISTOR 2SA1175TP-E	
Q58	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q1070	8-729-119-76	TRANSISTOR 2SA1175TP-E	
Q59	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q2004	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q60	8-729-027-59	TRANSISTOR DTC144EKA-T146		Q2005	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1001	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q2006	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1002	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q1003	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q2007	8-729-032-47	TRANSISTOR 2SA1741	
Q1004	8-729-120-28	TRANSISTOR 2SC1623-L5L6			7-682-949-01	SCREW +PSW 3X10; Q2007	
Q1005	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q2008	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1006	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3001	8-729-140-96	TRANSISTOR 2SD774-34	
Q1007	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3002	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1008	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3003	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1009	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3004	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1010	8-729-216-22	TRANSISTOR 2SA1162-G		Q3005	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1011	8-729-216-22	TRANSISTOR 2SA1162-G		Q3006	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1012	8-729-216-22	TRANSISTOR 2SA1162-G		Q3007	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1013	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3008	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1014	8-729-216-22	TRANSISTOR 2SA1162-G		Q3009	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1015	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3010	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1016	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3011	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1017	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3012	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1018	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3013	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1019	8-729-216-22	TRANSISTOR 2SA1162-G		Q3014	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1020	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3016	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1021	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3017	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1022	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3024	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1023	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3029	8-729-820-73	TRANSISTOR 2SC3746	
Q1024	8-729-216-22	TRANSISTOR 2SA1162-G		Q3030	8-729-015-28	TRANSISTOR IFR9630GS	
Q1025	8-729-120-28	TRANSISTOR 2SC1623-L5L6			7-682-949-01	SCREW +PSW 3X10; Q3030	
Q1026	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3031	8-729-821-87	TRANSISTOR 2SD1878-CA	
Q1027	8-729-120-28	TRANSISTOR 2SC1623-L5L6			7-682-949-01	SCREW +PSW 3X10; Q3031	
Q1028	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3032	8-729-020-07	TRANSISTOR 2SC486A(LBSONY)	
Q1029	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3033	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1030	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3034	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1031	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3035	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1032	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3036	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1033	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3037	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1034	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3038	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1035	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3039	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1036	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3040	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1037	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3041	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1038	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q3042	8-729-800-32	TRANSISTOR 2SC2362K-G	
Q1039	8-729-216-22	TRANSISTOR 2SA1162-G		Q3043	8-729-802-71	TRANSISTOR 2SA1407-D	
Q1040	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q1041	8-729-216-22	TRANSISTOR 2SA1162-G					
Q1042	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q1043	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q1044	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q1045	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q1046	8-729-216-22	TRANSISTOR 2SA1162-G					
Q1047	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q1048	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q1049	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q1050	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q1051	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q1052	8-729-216-22	TRANSISTOR 2SA1162-G					
Q1053	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
				<RESISTOR>			
Q1044	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R1	1-216-389-11	METAL OXIDE 1	5% 3W F
Q1045	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R2	1-247-746-11	CARBON 390	5% 1/2W
Q1046	8-729-216-22	TRANSISTOR 2SA1162-G		R3	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
Q1047	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R4	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
Q1048	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R5	1-216-678-11	METAL CHIP 13K	0.50% 1/10W
Q1049	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R6	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
Q1050	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R7	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
Q1051	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R8	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
Q1052	8-729-216-22	TRANSISTOR 2SA1162-G		R10	1-216-083-00	METAL GLAZE 27K	5% 1/10W
Q1053	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R11	1-216-093-00	METAL GLAZE 68K	5% 1/10W
				R12	1-216-089-91	METAL GLAZE 47K	5% 1/10W

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R13	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R84	1-216-009-00	METAL GLAZE 22 5% 1/10W
R14	1-216-049-00	METAL GLAZE 1K	5%	1/10W	R85	1-216-651-11	METAL CHIP 1K 0.50% 1/10W
R15	1-216-001-00	METAL GLAZE 10	5%	1/10W	R86	1-216-645-11	METAL CHIP 560 0.50% 1/10W
R16	1-216-067-00	METAL GLAZE 5.6K	5%	1/10W	R87	1-208-774-11	METAL CHIP 470 0.50% 1/10W
R17	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	R88	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W
R18	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	R89	1-216-025-91	METAL GLAZE 100 5% 1/10W
R20	1-216-043-91	METAL GLAZE 560	5%	1/10W	R90	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W
R21	1-216-109-00	METAL GLAZE 330K	5%	1/10W	R91	1-208-800-11	METAL CHIP 5.6K 0.50% 1/10W
R22	1-216-055-00	METAL GLAZE 1.8K	5%	1/10W	R92	1-216-645-11	METAL CHIP 560 0.50% 1/10W
R23	1-216-025-91	METAL GLAZE 100	5%	1/10W	R93	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W
R24	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R94	1-216-041-00	METAL GLAZE 470 5% 1/10W
R25	1-216-067-00	METAL GLAZE 5.6K	5%	1/10W	R95	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W
R26	1-216-097-91	METAL GLAZE 100K	5%	1/10W	R96	1-216-017-91	METAL GLAZE 47 5% 1/10W
R27	1-216-097-91	METAL GLAZE 100K	5%	1/10W	R101	1-216-009-00	METAL GLAZE 22 5% 1/10W
R28	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	R102	1-216-009-00	METAL GLAZE 22 5% 1/10W
R29	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	R103	1-216-009-00	METAL GLAZE 22 5% 1/10W
R30	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R110	1-216-009-00	METAL GLAZE 22 5% 1/10W
R31	1-216-119-00	METAL GLAZE 820K	5%	1/10W	R117	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R32	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	R118	1-216-097-91	METAL GLAZE 100K 5% 1/10W
R33	1-216-067-00	METAL GLAZE 5.6K	5%	1/10W	R119	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R34	1-216-069-00	METAL GLAZE 6.8K	5%	1/10W	R120	1-216-105-91	METAL GLAZE 220K 5% 1/10W
R35	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	R121	1-216-099-00	METAL GLAZE 120K 5% 1/10W
R36	1-216-089-91	METAL GLAZE 47K	5%	1/10W	R122	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W
R37	1-216-001-00	METAL GLAZE 10	5%	1/10W	R123	1-216-001-00	METAL GLAZE 10 5% 1/10W
R38	1-216-009-00	METAL GLAZE 22	5%	1/10W	R124	1-216-095-00	METAL GLAZE 82K 5% 1/10W
R39	1-216-069-00	METAL GLAZE 6.8K	5%	1/10W	R125	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R40	1-216-081-00	METAL GLAZE 22K	5%	1/10W	R126	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W
R41	1-216-075-00	METAL GLAZE 12K	5%	1/10W	R127	1-216-097-91	METAL GLAZE 100K 5% 1/10W
R42	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R128	1-216-109-00	METAL GLAZE 330K 5% 1/10W
R43	1-216-055-00	METAL GLAZE 1.8K	5%	1/10W	R129	1-216-049-91	METAL GLAZE 1K 5% 1/10W
R44	1-216-045-00	METAL GLAZE 680	5%	1/10W	R130	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R45	1-216-033-00	METAL GLAZE 22K	5%	1/10W	R131	1-216-041-00	METAL GLAZE 470K 5% 1/10W
R46	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	R132	1-218-760-11	METAL CHIP 220K 0.50% 1/10W
R47	1-216-107-00	METAL GLAZE 270K	5%	1/10W	R133	1-216-097-91	METAL GLAZE 100K 5% 1/10W
R48	1-216-133-00	METAL GLAZE 3.3M	5%	1/10W	R134	1-208-806-11	METAL CHIP 10K 0.50% 1/10W
R50	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R135	1-216-041-00	METAL GLAZE 470 5% 1/10W
R51	1-216-043-91	METAL GLAZE 560	5%	1/10W	R136	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R52	1-216-115-00	METAL GLAZE 560K	5%	1/10W	R137	1-216-049-91	METAL GLAZE 1K 5% 1/10W
R53	1-216-069-00	METAL GLAZE 6.8K	5%	1/10W	R138	1-218-768-11	METAL CHIP 470K 0.50% 1/10W
R54	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	R139	1-218-756-11	METAL CHIP 150K 0.50% 1/10W
R55	1-216-001-00	METAL GLAZE 10	5%	1/10W	R140	1-216-077-00	METAL GLAZE 15K 5% 1/10W
R56	1-216-041-00	METAL GLAZE 470	5%	1/10W	R141	1-216-671-11	METAL CHIP 6.8K 0.50% 1/10W
R57	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	R142	1-216-053-00	METAL GLAZE 1.8K 5% 1/10W
R58	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R143	1-216-049-91	METAL GLAZE 1K 5% 1/10W
R59	1-216-055-00	METAL GLAZE 1.8K	5%	1/10W	R144	1-216-101-00	METAL GLAZE 150K 5% 1/10W
R60	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W	R145	1-216-099-00	METAL GLAZE 120K 5% 1/10W
R61	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W	R146	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R62	1-216-663-11	METAL CHIP 3.3K	0.50%	1/10W	R147	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R63	1-216-647-11	METAL CHIP 680	0.50%	1/10W	R148	1-216-645-11	METAL GLAZE 560 5% 1/10W
R64	1-216-659-11	METAL CHIP 2.2K	0.50%	1/10W	R149	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R65	1-216-659-11	METAL CHIP 2.2K	0.50%	1/10W	R150	1-216-111-91	METAL GLAZE 390K 5% 1/10W
R66	1-216-667-11	METAL CHIP 4.7K	0.50%	1/10W	R151	1-216-097-91	METAL GLAZE 100K 5% 1/10W
R67	1-216-645-11	METAL CHIP 560	0.50%	1/10W	R152	1-216-111-91	METAL GLAZE 390K 5% 1/10W
R68	1-208-800-11	METAL CHIP 5.6K	0.50%	1/10W	R153	1-216-689-11	METAL GLAZE 39K 5% 1/10W
R69	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W	R154	1-216-642-11	METAL CHIP 430 0.50% 1/10W
R70	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W	R155	1-216-689-11	METAL GLAZE 39K 5% 1/10W
R71	1-215-404-00	METAL 200	1%	1/4W	R156	1-216-617-11	METAL CHIP 39 0.50% 1/10W
R72	1-216-059-00	METAL GLAZE 1K	5%	1/10W	R157	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R73	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R158	1-216-083-00	METAL GLAZE 27K 5% 1/10W
R74	1-216-645-11	METAL CHIP 560	0.50%	1/10W	R159	1-216-029-00	METAL GLAZE 150 5% 1/10W
R75	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R160	1-216-647-11	METAL CHIP 680 0.50% 1/10W
R76	1-216-663-11	METAL CHIP 3.3K	0.50%	1/10W	R161	1-216-647-11	METAL CHIP 680 0.50% 1/10W
R77	1-216-659-11	METAL CHIP 2.2K	0.50%	1/10W	R162	1-216-009-00	METAL GLAZE 22 5% 1/10W
R78	1-216-645-11	METAL CHIP 560	0.50%	1/10W	R163	1-216-645-11	METAL GLAZE 560 5% 1/10W
R79	1-208-800-11	METAL CHIP 5.6K	0.50%	1/10W	R164	1-216-089-91	METAL GLAZE 47K 5% 1/10W
R80	1-216-645-11	METAL CHIP 560	0.50%	1/10W	R165	1-216-047-91	METAL GLAZE 820 5% 1/10W
R81	1-215-404-00	METAL 200	1%	1/4W	R166	1-216-047-91	METAL GLAZE 820 5% 1/10W
R82	1-216-039-00	METAL GLAZE 390	5%	1/10W	R167	1-216-089-91	METAL GLAZE 47K 5% 1/10W
R83	1-216-017-91	METAL GLAZE 47	5%	1/10W	R168	1-216-047-91	METAL GLAZE 820 5% 1/10W

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R169	1-216-089-91	METAL GLAZE 47K	5%	1/10W	R1028	1-215-429-00 METAL	2.2K 1%
R170	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1029	1-216-043-91 METAL GLAZE	560 5%
R171	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1030	1-216-037-00 METAL GLAZE	330 5%
R172	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1031	1-216-059-00 METAL GLAZE	2.7K 5%
R173	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R1032	1-216-037-00 METAL GLAZE	330 5%
R174	1-216-077-00	METAL GLAZE 15K	5%	1/10W	R1033	1-216-037-00 METAL GLAZE	330 5%
R175	1-216-009-00	METAL GLAZE 22	5%	1/10W	R1034	1-216-081-00 METAL GLAZE	22K 5%
R176	1-216-009-00	METAL GLAZE 22	5%	1/10W	R1035	1-216-057-00 METAL GLAZE	2.2K 5%
R177	1-216-009-00	METAL GLAZE 22	5%	1/10W	R1036	1-216-037-00 METAL GLAZE	330 5%
R178	1-216-025-91	METAL GLAZE 100	5%	1/10W	R1037	1-216-037-00 METAL GLAZE	330 5%
R179	1-216-651-11	METAL CHIP 1K	0.50%	1/10W	R1038	1-216-037-00 METAL GLAZE	330 5%
R180	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1039	1-215-423-00 METAL	1.2K 1%
R181	1-208-784-11	METAL CHIP 1.2K	0.50%	1/10W	R1040	1-216-043-91 METAL GLAZE	560 5%
R182	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1041	1-216-043-91 METAL GLAZE	560 5%
R183	1-208-784-11	METAL CHIP 1.2K	0.50%	1/10W	R1042	1-216-037-00 METAL GLAZE	330 5%
R184	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1043	1-216-037-00 METAL GLAZE	330 5%
R185	1-216-075-00	METAL GLAZE 12K	5%	1/10W	R1044	1-216-049-91 METAL GLAZE	1K 5%
R186	1-216-649-11	METAL CHIP 820	0.50%	1/10W	R1045	1-216-037-00 METAL GLAZE	330 5%
R187	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	R1046	1-216-049-91 METAL GLAZE	1K 5%
R188	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W	R1047	1-216-067-00 METAL GLAZE	5.6K 5%
R189	1-216-075-00	METAL GLAZE 12K	5%	1/10W	R1048	1-216-049-91 METAL GLAZE	1K 5%
R190	1-216-649-11	METAL CHIP 820	0.50%	1/10W	R1049	1-249-408-11 CARBON	180 5%
R191	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	R1050	1-216-057-00 METAL GLAZE	2.2K 5%
R192	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W	R1051	1-216-688-11 METAL CHIP	36K 0.50%
R193	1-216-075-00	METAL GLAZE 12K	5%	1/10W	R1052	1-216-047-91 METAL GLAZE	820 5%
R194	1-216-649-11	METAL CHIP 820	0.50%	1/10W	R1053	1-216-641-11 METAL CHIP	390 0.50%
R195	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	R1054	1-216-071-00 METAL GLAZE	8.2K 5%
R196	1-216-025-91	METAL GLAZE 100	5%	1/10W	R1055	1-216-047-91 METAL GLAZE	820 5%
R197	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W	R1056	1-216-037-00 METAL GLAZE	330 5%
R198	1-216-025-91	METAL GLAZE 100	5%	1/10W	R1057	1-216-009-00 METAL GLAZE	22 5%
R199	1-216-077-00	METAL GLAZE 15K	5%	1/10W	R1058	1-216-017-91 METAL GLAZE	47 5%
R200	1-216-077-00	METAL GLAZE 15K	5%	1/10W	R1059	1-216-017-91 METAL GLAZE	47 5%
R201	1-208-810-11	METAL CHIP 15K	0.50%	1/10W	R1060	1-216-017-91 METAL GLAZE	47 5%
R203	1-216-025-91	METAL GLAZE 100	5%	1/10W	R1061	1-216-017-91 METAL GLAZE	47 5%
R205	1-216-009-00	METAL GLAZE 22	5%	1/10W	R1062	1-216-017-91 METAL GLAZE	47 5%
R206	1-216-029-00	METAL GLAZE 150	5%	1/10W	R1063	1-216-037-00 METAL GLAZE	330 5%
R216	1-216-389-11	METAL OXIDE 1	5%	3W F	R1064	1-216-655-11 METAL CHIP	1.5K 0.50%
R219	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R1065	1-216-017-91 METAL GLAZE	47 5%
R220	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R1066	1-216-017-91 METAL GLAZE	47 5%
R221	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R1067	1-216-647-11 METAL CHIP	680 0.50%
R222	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R1068	1-216-639-11 METAL CHIP	330 0.50%
R223	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R1069	1-216-017-91 METAL GLAZE	47 5%
R224	1-216-093-00	METAL GLAZE 68K	5%	1/10W	R1070	1-208-771-11 METAL CHIP	360 0.50%
R225	1-249-417-11	CARBON 1K	5%	14W	R1071	1-216-081-00 METAL GLAZE	22K 5%
R226	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R1072	1-216-081-00 METAL GLAZE	22K 5%
R227	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R1073	1-216-648-11 METAL CHIP	820 0.50%
R228	1-216-107-00	METAL GLAZE 270K	5%	1/10W	R1074	1-216-053-00 METAL GLAZE	1.5K 5%
R229	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R1075	1-216-045-00 METAL GLAZE	680 5%
R230	1-249-426-11	CARBON(SMALL)5.6K	5%	14W	R1076	1-216-051-00 METAL GLAZE	1.2K 5%
R1001	1-216-033-00	METAL GLAZE 220	5%	1/10W	R1077	1-216-049-91 METAL GLAZE	1K 5%
R1002	1-216-033-00	METAL GLAZE 220	5%	1/10W	R1078	1-216-047-91 METAL GLAZE	820 5%
R1003	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R1079	1-216-059-00 METAL GLAZE	2.7K 5%
R1004	1-216-025-91	METAL GLAZE 100	5%	1/10W	R1080	1-216-039-00 METAL GLAZE	390 5%
R1005	1-216-063-91	METAL GLAZE 3.9K	5%	1/10W	R1081	1-208-771-11 METAL CHIP	360 0.50%
R1006	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R1082	1-216-035-00 METAL GLAZE	270 5%
R1007	1-216-025-91	METAL GLAZE 100	5%	1/10W	R1083	1-216-059-00 METAL GLAZE	77K 5%
R1008	1-216-025-91	METAL GLAZE 100	5%	1/10W	R1084	1-216-073-00 METAL GLAZE	10K 5%
R1009	1-216-009-00	METAL GLAZE 22	5%	1/10W	R1085	1-216-059-00 METAL GLAZE	2.7K 5%
R1011	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R1086	1-216-025-91 METAL GLAZE	100 5%
R1012	1-216-009-00	METAL GLAZE 22	5%	1/10W	R1087	1-216-645-11 METAL CHIP	560 0.50%
R1015	1-216-009-00	METAL GLAZE 22	5%	1/10W	R1088	1-216-089-91 METAL GLAZE	47K 5%
R1016	1-216-009-00	METAL GLAZE 22	5%	1/10W	R1089	1-216-047-91 METAL GLAZE	820 5%
R1017	1-216-009-00	METAL GLAZE 22	5%	1/10W	R1090	1-216-093-00 METAL GLAZE	68K 5%
R1018	1-216-009-00	METAL GLAZE 22	5%	1/10W	R1091	1-216-641-11 METAL CHIP	390 0.50%
R1020	1-216-009-00	METAL GLAZE 22	5%	1/10W	R1092	1-216-071-00 METAL GLAZE	8.2K 5%
R1021	1-216-077-00	METAL GLAZE 15K	5%	1/10W	R1093	1-216-037-00 METAL GLAZE	330 5%
R1026	1-216-037-00	METAL GLAZE 330	5%	1/10W	R1094	1-216-009-00 METAL GLAZE	22 5%
R1027	1-216-043-91	METAL GLAZE 560	5%	1/10W	R1095	1-216-017-91 METAL GLAZE	47 5%

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R1096	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1166	1-216-059-00	METAL GLAZE 2.7K 5%
R1097	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1167	1-216-677-11	METAL CHIP 12K 0.50%
R1098	1-216-037-00	METAL GLAZE 330	5%	1/10W	R1168	1-216-677-11	METAL CHIP 12K 0.50%
R1099	1-216-063-91	METAL GLAZE 3.9K	5%	1/10W	R1169	1-216-677-11	METAL CHIP 12K 0.50%
R1100	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W	R1170	1-216-677-11	METAL CHIP 12K 0.50%
R1101	1-216-039-00	METAL GLAZE 390	5%	1/10W	R1171	1-216-677-11	METAL CHIP 12K 0.50%
R1102	1-208-771-11	METAL CHIP 360	0.50%	1/10W	R1172	1-216-677-11	METAL CHIP 12K 0.50%
R1103	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1175	1-216-677-11	METAL CHIP 12K 0.50%
R1104	1-216-643-11	METAL CHIP 560	0.50%	1/10W	R1176	1-208-789-11	METAL CHIP 2K 0.50%
R1105	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1177	1-249-417-11	CARBON 1K 5%
R1106	1-216-651-11	METAL CHIP 1K	0.50%	1/10W	R1178	1-249-417-11	CARBON 1K 5%
R1107	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1180	1-216-049-91	METAL GLAZE 1K 5%
R1108	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W	R1183	1-208-840-11	METAL CHIP 620K 0.50%
R1109	1-216-619-11	METAL CHIP 47	0.50%	1/10W	R1184	1-216-662-11	METAL CHIP 3K 0.50%
R1110	1-216-013-00	METAL GLAZE 33	5%	1/10W	R1185	1-216-063-91	METAL GLAZE 3.9K 5%
R1111	1-216-039-00	METAL GLAZE 390	5%	1/10W	R1186	1-208-810-11	METAL CHIP 15K 0.50%
R1112	1-208-771-11	METAL CHIP 360	0.50%	1/10W	R1187	1-216-113-00	METAL GLAZE 470K 5%
R1113	1-216-035-00	METAL GLAZE 270	5%	1/10W	R1188	1-216-662-11	METAL CHIP 3K 0.50%
R1114	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W	R1189	1-216-665-11	METAL CHIP 3.9K 0.50%
R1115	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	R1190	1-216-665-11	METAL CHIP 3.9K 0.50%
R1116	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W	R1191	1-216-001-00	METAL GLAZE 10 5%
R1117	1-216-041-00	METAL GLAZE 470	5%	1/10W	R1192	1-216-097-91	METAL GLAZE 100K 5%
R1118	1-216-041-00	METAL GLAZE 470	5%	1/10W	R1193	1-216-083-00	METAL GLAZE 27K 5%
R1119	1-216-053-00	METAL GLAZE 1.5K	5%	1/10W	R1194	1-216-662-11	METAL CHIP 3K 0.50%
R1120	1-216-073-00	METAL GLAZE 10K	5%	1/10W	R1195	1-216-662-11	METAL CHIP 3K 0.50%
R1121	1-216-649-11	METAL CHIP 820	0.50%	1/10W	R1196	1-216-665-11	METAL CHIP 3.9K 0.50%
R1122	1-216-053-00	METAL GLAZE 1.5K	5%	1/10W	R1198	1-208-810-11	METAL CHIP 15K 0.50%
R1123	1-216-041-00	METAL GLAZE 470	5%	1/10W	R1199	1-216-662-11	METAL CHIP 3K 0.50%
R1124	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1200	1-216-001-00	METAL GLAZE 10 5%
R1125	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1202	1-216-662-11	METAL CHIP 3K 0.50%
R1126	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W	R1203	1-216-001-00	METAL GLAZE 10 5%
R1127	1-216-039-00	METAL GLAZE 390	5%	1/10W	R1204	1-216-662-11	METAL CHIP 3K 0.50%
R1128	1-208-771-11	METAL CHIP 360	0.50%	1/10W	R1205	1-216-665-11	METAL CHIP 3.9K 0.50%
R1129	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W	R1207	1-216-665-11	METAL CHIP 3.9K 0.50%
R1130	1-216-689-11	METAL GLAZE 39K	5%	1/10W	R1208	1-216-081-00	METAL GLAZE 22K 5%
R1131	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	R1209	1-218-769-11	METAL CHIP 510K 0.50%
R1132	1-216-682-11	METAL CHIP 20K	0.50%	1/10W	R1210	1-208-806-11	METAL CHIP 10K 0.50%
R1133	1-216-047-91	METAL GLAZE 820	5%	1/10W	R1211	1-216-677-11	METAL CHIP 12K 0.50%
R1134	1-216-641-11	METAL CHIP 390	0.50%	1/10W	R1212	1-216-677-11	METAL CHIP 12K 0.50%
R1135	1-216-071-00	METAL GLAZE 8.2K	5%	1/10W	R1213	1-216-677-11	METAL CHIP 12K 0.50%
R1136	1-216-047-91	METAL GLAZE 820	5%	1/10W	R1214	1-216-677-11	METAL CHIP 12K 0.50%
R1137	1-216-037-00	METAL GLAZE 330	5%	1/10W	R1215	1-216-677-11	METAL CHIP 12K 0.50%
R1138	1-216-009-00	METAL GLAZE 22	5%	1/10W	R1216	1-216-677-11	METAL CHIP 12K 0.50%
R1139	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1219	1-216-677-11	METAL CHIP 12K 0.50%
R1140	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1220	1-216-113-00	METAL GLAZE 470K 5%
R1141	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1221	1-216-097-91	METAL GLAZE 100K 5%
R1142	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1222	1-216-689-11	METAL CHIP 39K 0.50%
R1143	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1223	1-216-097-91	METAL GLAZE 100K 5%
R1144	1-216-037-00	METAL GLAZE 330	5%	1/10W	R1224	1-216-097-91	METAL GLAZE 100K 5%
R1145	1-208-771-11	METAL CHIP 360	0.50%	1/10W	R1225	1-216-085-00	METAL GLAZE 33K 5%
R1146	1-216-655-11	METAL CHIP 1.5K	0.50%	1/10W	R1226	1-216-097-91	METAL GLAZE 100K 5%
R1147	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1227	1-216-009-00	METAL GLAZE 22 5%
R1148	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1228	1-216-040-91	METAL GLAZE 1K 5%
R1149	1-216-647-11	METAL CHIP 680	0.50%	1/10W	R1229	1-216-009-00	METAL GLAZE 22 5%
R1150	1-216-629-11	METAL CHIP 120	0.50%	1/10W	R1230	1-216-009-00	METAL GLAZE 22 5%
R1151	1-216-017-91	METAL GLAZE 47	5%	1/10W	R1231	1-216-009-00	METAL GLAZE 22 5%
R1152	1-208-771-11	METAL CHIP 360	0.50%	1/10W	R1232	1-216-033-00	METAL GLAZE 220 5%
R1153	1-216-081-00	METAL GLAZE 22K	5%	1/10W	R1233	1-216-033-00	METAL GLAZE 220 5%
R1154	1-216-081-00	METAL GLAZE 22K	5%	1/10W	R1234	1-216-033-00	METAL GLAZE 220 5%
R1155	1-216-647-11	METAL CHIP 680	0.50%	1/10W	R1235	1-216-033-00	METAL GLAZE 220 5%
R1156	1-216-053-00	METAL GLAZE 1.5K	5%	1/10W	R1236	1-216-033-00	METAL GLAZE 220 5%
R1157	1-216-041-00	METAL GLAZE 470	5%	1/10W	R1237	1-216-033-00	METAL GLAZE 220 5%
R1158	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W	R1238	1-216-033-00	METAL GLAZE 33K 5%
R1159	1-216-049-91	METAL GLAZE 1K	5%	1/10W	R1239	1-216-113-00	METAL GLAZE 470K 5%
R1160	1-216-047-91	METAL GLAZE 820	5%	1/10W	R1240	1-216-025-91	METAL GLAZE 10K 5%
R1161	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W	R1241	1-216-085-00	METAL GLAZE 33K 5%
R1162	1-216-039-00	METAL GLAZE 390	5%	1/10W	R1242	1-216-085-00	METAL GLAZE 33K 5%
R1163	1-216-039-00	METAL GLAZE 270	5%	1/10W	R1243	1-216-085-00	METAL GLAZE 33K 5%
R1164	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W	R1244	1-208-806-11	METAL CHIP 10K 0.50%
R1165	1-216-069-00	METAL GLAZE 6.8K	5%	1/10W			

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R1246	1-208-806-11	METAL CHIP 10K	0.50% 1/10W	R2010	1-216-009-00	METAL GLAZE 22	5% 1/10W
R1247	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R2011	1-216-009-00	METAL GLAZE 22	5% 1/10W
R1248	1-216-085-00	METAL GLAZE 33K	5% 1/10W	R2012	1-216-009-00	METAL GLAZE 22	5% 1/10W
R1249	1-216-089-91	METAL GLAZE 47K	5% 1/10W	R2013	1-216-009-00	METAL GLAZE 22	5% 1/10W
R1250	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R2014	1-216-009-00	METAL GLAZE 22	5% 1/10W
R1251	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R2015	1-216-009-00	METAL GLAZE 22	5% 1/10W
R1252	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R2016	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W
R1253	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R2017	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W
R1254	1-216-009-00	METAL GLAZE 22	5% 1/10W	R2018	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R1255	1-216-041-00	METAL GLAZE 470	5% 1/10W	R2019	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R1256	1-216-059-00	METAL GLAZE 2.7K	5% 1/10W	R2020	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R1257	1-216-059-00	METAL GLAZE 2.7K	5% 1/10W	R2021	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R1258	1-216-033-00	METAL GLAZE 220	5% 1/10W	R2022	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R1259	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R2023	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R1260	1-216-097-91	METAL GLAZE 100K	5% 1/10W	R2025	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R1261	1-216-017-91	METAL GLAZE 47	5% 1/10W	R2026	1-216-009-00	METAL GLAZE 22	5% 1/10W
R1262	1-216-017-91	METAL GLAZE 47	5% 1/10W	R2027	1-216-009-00	METAL GLAZE 22	5% 1/10W
R1263	1-216-017-91	METAL GLAZE 47	5% 1/10W	R2028	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R1264	1-218-756-11	METAL CHIP 150K	0.50% 1/10W	R2029	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R1265	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R2030	1-216-009-00	METAL GLAZE 22	5% 1/10W
R1266	1-216-687-11	METAL CHIP 33K	0.50% 1/10W	R2031	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R1267	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R2032	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R1268	1-216-651-11	METAL CHIP 1K	0.50% 1/10W	R2033	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R1269	1-216-682-11	METAL CHIP 20K	0.50% 1/10W	R2034	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R1270	1-216-009-00	METAL GLAZE 22	5% 1/10W	R2035	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R1271	1-216-089-91	METAL GLAZE 47K	5% 1/10W	R2036	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R1272	1-216-089-91	METAL GLAZE 47K	5% 1/10W	R2037	1-216-009-00	METAL GLAZE 22	5% 1/10W
R1273	1-216-651-11	METAL CHIP 1K	0.50% 1/10W	R2038	1-216-009-00	METAL GLAZE 22	5% 1/10W
R1274	1-216-009-00	METAL GLAZE 22	5% 1/10W	R2039	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R1275	1-216-682-11	METAL CHIP 20K	0.50% 1/10W	R2040	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R1276	1-216-085-00	METAL GLAZE 33K	5% 1/10W	R2041	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R1277	1-216-051-00	METAL GLAZE 1.2K	5% 1/10W	R2042	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R1278	1-216-645-11	METAL CHIP 560	0.50% 1/10W	R2043	1-216-009-00	METAL GLAZE 22	5% 1/10W
R1279	1-216-651-11	METAL CHIP 1K	0.50% 1/10W	R2044	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R1280	1-216-081-00	METAL GLAZE 22K	5% 1/10W	R2045	1-216-089-91	METAL GLAZE 47K	5% 1/10W
R1281	1-216-051-00	METAL GLAZE 1.2K	5% 1/10W	R2046	1-216-089-91	METAL GLAZE 47K	5% 1/10W
R1282	1-216-645-11	METAL CHIP 560	0.50% 1/10W	R2047	1-216-089-91	METAL GLAZE 47K	5% 1/10W
R1283	1-216-651-11	METAL CHIP 1K	0.50% 1/10W	R2049	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
R1284	1-216-689-11	METAL GLAZE 39K	5% 1/10W	R2050	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
R1285	1-216-665-11	METAL CHIP 3.9K	0.50% 1/10W	R2051	1-216-667-11	METAL CHIP 4.7K	0.50% 1/10W
R1286	1-208-814-11	METAL CHIP 22K	0.50% 1/10W	R2052	1-216-667-11	METAL CHIP 4.7K	0.50% 1/10W
R1287	1-216-689-11	METAL GLAZE 39K	5% 1/10W	R2053	1-208-784-11	METAL CHIP 1.2K	0.50% 1/10W
R1288	1-216-073-00	METAL GLAZE 10K	5% 1/10W	R2054	1-208-800-11	METAL CHIP 5.6K	0.50% 1/10W
R1289	1-216-093-00	METAL GLAZE 68K	5% 1/10W	R2055	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
R1290	1-216-081-00	METAL GLAZE 22K	5% 1/10W	R2056	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
R1291	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R2057	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
R1292	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W	R2058	1-208-800-11	METAL CHIP 5.6K	0.50% 1/10W
R1293	1-216-039-00	METAL GLAZE 390	5% 1/10W	R2059	1-208-806-11	METAL CHIP 10K	0.50% 1/10W
R1294	1-216-077-00	METAL GLAZE 15K	5% 1/10W	R2060	1-216-673-11	METAL CHIP 8.2K	0.50% 1/10W
R1295	1-216-689-11	METAL GLAZE 39K	5% 1/10W	R2061	1-216-663-11	METAL CHIP 3.3K	0.50% 1/10W
R1296	1-216-089-91	METAL GLAZE 47K	5% 1/10W	R2062	1-216-666-11	METAL CHIP 4.3K	0.50% 1/10W
R1297	1-216-025-91	METAL GLAZE 100	5% 1/10W	R2063	1-216-663-11	METAL CHIP 3.3K	0.50% 1/10W
R1298	1-216-073-00	METAL GLAZE 10K	5% 1/10W	R2064	1-216-025-91	METAL GLAZE 100	5% 1/10W
R1299	1-208-806-11	METAL CHIP 10K	0.50% 1/10W	R2065	1-208-822-11	METAL CHIP 47K	0.50% 1/10W
R1300	1-216-073-00	METAL GLAZE 10K	5% 1/10W	R2067	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R1301	1-216-685-11	METAL CHIP 27K	0.50% 1/10W	R2068	1-208-806-11	METAL CHIP 10K	0.50% 1/10W
R1302	1-216-689-11	METAL CHIP 39K	0.50% 1/10W	R2069	1-208-822-11	METAL CHIP 47K	0.50% 1/10W
R1303	1-216-682-11	METAL CHIP 20K	0.50% 1/10W	R2070	1-218-760-11	METAL CHIP 220K	0.50% 1/10W
R1304	1-216-699-11	METAL CHIP 100K	0.50% 1/10W	R2071	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R1305	1-216-073-00	METAL GLAZE 10K	5% 1/10W	R2072	1-216-673-11	METAL CHIP 8.2K	0.50% 1/10W
R2002	1-249-449-11	CARBON 1.5	5% 1/4W F	R2073	1-216-663-11	METAL CHIP 3.3K	0.50% 1/10W
R2003	1-216-081-00	METAL GLAZE 22K	5% 1/10W	R2074	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R2004	1-216-081-00	METAL GLAZE 22K	5% 1/10W	R2075	1-208-806-11	METAL CHIP 10K	0.50% 1/10W
R2005	1-216-081-00	METAL GLAZE 22K	5% 1/10W	R2076	1-216-697-91	METAL CHIP 82K	0.50% 1/10W
R2006	1-216-033-00	METAL GLAZE 220	5% 1/10W	R2077	1-216-025-91	METAL GLAZE 100	5% 1/10W
R2007	1-216-009-00	METAL GLAZE 22	5% 1/10W	R2078	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R2008	1-216-009-00	METAL GLAZE 22	5% 1/10W	R2079	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R2009	1-216-009-00	METAL GLAZE 22	5% 1/10W	R2080	1-216-049-91	METAL GLAZE 1K	5% 1/10W
				R2081	1-216-695-11	METAL CHIP 68K	0.50% 1/10W

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REF. NO.	PART NO.	DESCRIPTION	REMARK
R2082	1-216-659-11	METAL CHIP 2.2K	0.50% 1/10W
R2083	1-216-659-11	METAL CHIP 2.2K	0.50% 1/10W
R2084	1-216-687-11	METAL CHIP 33K	0.50% 1/10W
R2085	1-216-676-11	METAL CHIP 11K	0.50% 1/10W
R2086	1-208-822-11	METAL CHIP 47K	0.50% 1/10W
R2087	1-216-661-11	METAL CHIP 2.7K	0.50% 1/10W
R2088	1-216-677-11	METAL CHIP 12K	0.50% 1/10W
R2089	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R2090	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R2091	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R2092	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
R2093	1-216-025-91	METAL GLAZE 100	5% 1/10W
R2094	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
R2095	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R2096	1-216-109-00	METAL GLAZE 330K	5% 1/10W
R2097	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
R2098	1-208-806-11	METAL CHIP 10K	0.50% 1/10W
R2099	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R2100	1-216-009-00	METAL GLAZE 22	5% 1/10W
R2101	1-208-806-11	METAL CHIP 10K	0.50% 1/10W
R2102	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
R2103	1-216-657-11	METAL CHIP 1.8K	0.50% 1/10W
R2104	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R2105	1-216-089-91	METAL GLAZE 47K	5% 1/10W
R2106	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
R2107	1-247-735-11	CARBON 47	5% 1/2W F
R2108	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R2109	1-216-685-11	METAL CHIP 27K	0.50% 1/10W
R2110	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W
R2111	1-216-665-11	METAL CHIP 3.9K	0.50% 1/10W
R2112	1-216-061-00	METAL GLAZE 3.3K	5% 1/10W
R2113	1-216-655-11	METAL CHIP 1.5K	0.50% 1/10W
R2114	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
R2115	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W
R2116	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W
R2117	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R2118	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R2119	1-216-013-00	METAL GLAZE 33	5% 1/10W
R2120	1-216-013-00	METAL GLAZE 33	5% 1/10W
R2121	1-216-013-00	METAL GLAZE 33	5% 1/10W
R2122	1-216-013-00	METAL GLAZE 33	5% 1/10W
R2123	1-249-404-00	CARBON 82	5% 1/4W
R2124	1-216-677-11	METAL CHIP 12K	0.50% 1/10W
R2125	1-216-667-11	METAL CHIP 4.7K	0.50% 1/10W
R2126	1-216-663-11	METAL CHIP 3.3K	0.50% 1/10W
R2127	1-216-665-11	METAL CHIP 3.9K	0.50% 1/10W
R2128	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R2129	1-216-033-00	METAL GLAZE 220	5% 1/10W
R2130	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
R2131	1-216-673-11	METAL CHIP 8.2K	0.50% 1/10W
R2132	1-208-822-11	METAL CHIP 47K	0.50% 1/10W
R2133	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
R2134	1-216-699-11	METAL CHIP 100K	0.50% 1/10W
R2135	1-216-661-11	METAL CHIP 2.7K	0.50% 1/10W
R2136	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
R2137	1-216-001-00	METAL GLAZE 10	5% 1/10W
R2138	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R2139	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R2140	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R2141	1-216-085-00	METAL GLAZE 33K	5% 1/10W
R2142	1-216-031-00	METAL GLAZE 180	5% 1/10W
R2143	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R2144	1-216-652-11	METAL CHIP 1.1K	0.50% 1/10W
R3001	1-247-747-11	CARBON 470	5% 1/2W
R3002	1-247-688-11	CARBON 10	5% 1/4W
R3003	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
R3004	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R3005	1-216-085-00	METAL GLAZE 33K	5% 1/10W

REF. NO.	PART NO.	DESCRIPTION	REMARK
R3006	1-216-079-00	METAL GLAZE 18K	5% 1/10W
R3007	1-216-061-00	METAL GLAZE 3.3K	5% 1/10W
R3008	1-216-045-00	METAL GLAZE 680	5% 1/10W
R3009	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R3010	1-249-482-11	CARBON 4.7	5% 1/2W
R3011	1-216-009-00	METAL GLAZE 22	5% 1/10W
R3012	1-216-009-00	METAL GLAZE 22	5% 1/10W
R3013	1-216-009-00	METAL GLAZE 22	5% 1/10W
R3014	1-216-645-11	METAL CHIP 560	0.50% 1/10W
R3015	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3016	1-216-035-00	METAL GLAZE 270	5% 1/10W
R3017	1-216-645-11	METAL CHIP 560	0.50% 1/10W
R3018	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3019	1-216-035-00	METAL GLAZE 270	5% 1/10W
R3020	1-216-645-11	METAL CHIP 560	0.50% 1/10W
R3021	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3022	1-216-035-00	METAL GLAZE 270	5% 1/10W
R3023	1-216-635-11	METAL CHIP 220	0.50% 1/10W
R3024	1-216-635-11	METAL CHIP 220	0.50% 1/10W
R3025	1-216-635-11	METAL CHIP 220	0.50% 1/10W
R3026	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W
R3027	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3028	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W
R3029	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3030	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W
R3031	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3032	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3033	1-216-048-91	METAL GLAZE 1K	5% 1/10W
R3034	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3035	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R3036	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3037	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R3038	1-216-367-11	METAL OXIDE 0.68	5% 2W F
R3039	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R3040	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
R3041	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R3042	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3043	1-216-077-00	METAL GLAZE 15K	5% 1/10W
R3044	1-216-085-00	METAL GLAZE 33K	5% 1/10W
R3045	1-216-659-11	METAL CHIP 2.2K	0.50% 1/10W
R3046	1-216-655-11	METAL CHIP 27K	0.50% 1/10W
R3047	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R3048	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R3049	1-216-099-00	METAL GLAZE 120K	5% 1/10W
R3050	1-216-009-00	METAL GLAZE 22	5% 1/10W
R3051	1-216-025-91	METAL GLAZE 100	5% 1/10W
R3052	1-216-009-00	METAL GLAZE 22	5% 1/10W
R3053	1-216-113-00	METAL GLAZE 470K	5% 1/10W
R3054	1-216-685-11	METAL CHIP 27K	0.50% 1/10W
R3055	1-216-659-11	METAL CHIP 2.2K	0.50% 1/10W
R3056	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
R3057	1-208-814-11	METAL CHIP 22K	0.50% 1/10W
R3058	1-216-685-11	METAL CHIP 27K	0.50% 1/10W
R3059	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R3060	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R3061	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R3062	1-208-767-11	METAL CHIP 240	0.50% 1/10W
R3063	1-208-767-11	METAL CHIP 240	0.50% 1/10W
R3064	1-216-660-11	METAL CHIP 2.4K	0.50% 1/10W
R3065	1-216-665-11	METAL CHIP 3.3K	0.50% 1/10W
R3069	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R3071	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R3072	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W
R3073	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R3074	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R3075	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R3076	1-216-089-91	METAL GLAZE 47K	5% 1/10W
R3078	1-216-649-11	METAL CHIP 820	0.50% 1/10W

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

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REF. NO.	PART NO.	DESCRIPTION	REMARK
R3079	1-216-661-11	METAL CHIP	2.7K 0.50% 1/10W
R3080	1-216-673-11	METAL CHIP	8.2K 0.50% 1/10W
R3083	1-247-863-91	CARBON	22K 5% 1/4W
R3084	1-216-663-11	METAL CHIP	3.3K 0.50% 1/10W
R3085	1-208-824-11	METAL CHIP	56K 0.50% 1/10W
R3086	1-247-692-11	CARBON	22 5% 1/4W F
R3087	1-249-444-71	CARBON	0.56 5% 1/4W F
R3088	1-216-045-00	METAL GLAZE	680 5% 1/10W
R3089	1-249-401-11	CARBON	47 5% 1/4W
R3090	1-247-863-91	CARBON	22K 5% 1/4W
R3091	1-249-421-11	CARBON	2.2K 5% 1/4W
R3092	1-216-425-11	METAL OXIDE	56 5% 1W F
R3093	1-249-448-11	CARBON	1.2 5% 1/4W F
R3094	1-216-399-00	METAL OXIDE	6.8 5% 3W F
R3095	1-216-399-00	METAL OXIDE	6.8 5% 3W F
R3096	1-247-692-11	CARBON	22 5% 1/4W F
R3097	1-216-911-11	METAL OXIDE	100 5% 3W F
R3098	1-216-447-00	METAL OXIDE	27 5% 2W F
R3099	1-215-911-11	METAL OXIDE	100 5% 3W F
R3101	1-215-892-11	METAL OXIDE	1K 5% 2W F
R3102	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R3103	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R3104	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R3105	1-208-612-11	METAL OXIDE	10M 5% 1W
R3106	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R3107	1-202-829-11	SOLID	8.2K 20% 1/2W
R3108	1-208-610-11	METAL OXIDE	2M 5% 1W
R3109	1-249-428-11	CARBON	8.2K 5% 1/4W
R3110	1-208-812-11	METAL CHIP	18K 0.50% 1/10W
R3111	1-249-443-11	CARBON	0.47 5% 1/4W F
R3112	1-216-025-91	METAL GLAZE	100 5% 1/10W
R3113	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R3114	1-216-025-91	METAL GLAZE	100 5% 1/10W
R3115	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R3116	1-216-025-91	METAL GLAZE	100 5% 1/10W
R3117	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R3118	1-216-295-91	CONDUCTOR, CHIP	
R3119	1-216-295-91	CONDUCTOR, CHIP	
R3120	1-216-295-91	CONDUCTOR, CHIP	
R3121	1-216-001-00	METAL GLAZE	10 5% 1/10W
R3122	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R3124	1-216-063-91	METAL GLAZE	3.9K 5% 1/10W
R3125	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R3126	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R3127	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R3128	1-208-806-11	METAL CHIP	10K 0.50% 1/10W
R3129	1-216-035-00	METAL GLAZE	1.8K 5% 1/10W
R3130	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R3131	1-208-822-11	METAL CHIP	47K 0.50% 1/10W
R3132	1-216-298-00	METAL GLAZE	2.2 5% 1/10W
R3133	1-216-001-00	METAL GLAZE	10 5% 1/10W
R3134	1-249-443-11	CARBON	0.47 5% 1/4W F
R3135	1-247-760-11	CARBON	4.7K 5% 1/2W F
R3136	1-249-443-11	CARBON	8.2 5% 1/2W F
R3137	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R3138	1-216-699-11	METAL CHIP	100K 0.50% 1/10W
R3139	1-216-651-11	METAL CHIP	1K 0.50% 1/10W
R3140	1-208-812-11	METAL CHIP	18K 0.50% 1/10W
R3141	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R3142	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R3143	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R3144	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R3145	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R3146	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R3147	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R3148	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R3149	1-202-822-00	SOLID	2.2K 20% 1/2W
R3150	1-202-826-00	SOLID	4.7K 20% 1/2W
R3151	1-202-822-00	SOLID	2.2K 20% 1/2W

REF. NO.	PART NO.	DESCRIPTION	REMARK
R3152	1-216-651-11	METAL CHIP	1K 0.50% 1/10W
R3153	1-208-822-11	METAL CHIP	47K 0.50% 1/10W
R3154	1-216-685-11	METAL CHIP	27K 0.50% 1/10W
R3155	1-216-677-11	METAL CHIP	12K 0.50% 1/10W
R3158	1-249-383-11	CARBON	1.5 5% 1/4W F
R3159	1-247-692-11	CARBON	22 5% 1/4W F
R3160	1-247-692-11	CARBON	22 5% 1/4W F
R3161	1-249-437-11	CARBON	47K 5% 1/4W
R3162	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R3163	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R3164	1-249-377-11	CARBON	0.47 5% 1/4W F
R3165	1-247-883-00	CARBON	150K 5% 1/4W
R3166	1-208-806-11	METAL CHIP	10K 0.50% 1/10W
<SPARK GAP>			
SG3001	1-519-422-11	GAP, SPARK	
<TRANSFORMER>			
T3001	1-423-769-11	TRANSFORMER, HORIZONTAL DRIVE	
T3002	1-423-855-11	TRANSFORMER, PERMITE (HRT)	
T3003	1-433-204-11	FRT ASSY	
4-052-340-01 SHORT RING; T3003			
<CRYSTAL>			
X1	1-527-722-00	OSCILLATOR, CRYSTAL	
X2	1-577-259-11	VIBRATOR, CRYSTAL	
X2001	1-760-040-11	VIBRATOR, CRYSTAL	

* A-1316-245-A G BOARD, COMPLETE			

* X-4033-346-1 HEAT SINK ASSY (G)			
<CAPACITOR>			
C601	1-137-484-11	FILM	0.47 μ F 10% 630V
C602	1-137-484-11	FILM	0.22 μ F 20% 250V
C603	1-137-484-11	FILM	0.22 μ F 20% 250V
C604	1-113-915-91	ELECT	0.001 μ F 20% 250V
C605	1-113-915-91	ELECT	0.001 μ F 20% 250V
C606	1-113-915-91	ELECT	0.001 μ F 20% 250V
C607	1-131-953-32	CERAMIC	0.0047 μ F 20% 500V
C608	1-131-953-32	CERAMIC	0.0047 μ F 20% 500V
C609	1-131-953-32	CERAMIC	0.0047 μ F 20% 500V
C610	1-131-953-32	CERAMIC	0.0047 μ F 20% 500V
C611	1-131-953-32	CERAMIC	0.0047 μ F 20% 500V
C612	1-137-484-11	FILM	0.47 μ F 10% 630V
C613	1-137-484-11	FILM	0.47 μ F 10% 630V
C614	1-129-720-00	FILM	0.033 μ F 10% 630V
C615	1-136-619-11	FILM	0.001 μ F 3% 2KV
C616	1-126-947-11	ELECT	47 μ F 20% 35V
C617	1-136-557-11	FILM	0.0033 μ F 10% 630V
C618	1-126-696-11	ELECT	10 μ F 20% 25V
C619	1-126-669-11	ELECT	0.22 μ F 20% 50V
C620	1-161-754-00	CERAMIC	0.001 μ F 10% 2KV
C621	1-125-494-11	ELECT(BLOCK)	560 μ F 20% 160V
C622	1-102-038-00	CERAMIC	0.001 μ F 500V
C623	1-107-885-11	ELECT	3300 μ F 20% 16V
C624	1-137-484-11	FILM	0.47 μ F 10% 630V
C625	1-102-038-00	CERAMIC	0.001 μ F 500V
C626	1-128-548-11	ELECT	4700 μ F 20% 25V
C627	1-102-038-00	CERAMIC	0.001 μ F 500V
C628	1-128-548-11	ELECT	4700 μ F 20% 25V

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REF. NO.	PART NO.	DESCRIPTION	REMARK
C629	1-126-964-11	ELECT	10 μ F 20% 50V
C630	1-136-853-11	FILM	0.5 μ F 5% 200V
C631	1-126-771-11	ELECT	100 μ F 20% 160V
C632	1-107-910-11	ELECT	100 μ F 20% 50V
C633	1-128-226-11	ELECT	220 μ F 20% 50V
C635	1-107-889-11	ELECT	220 μ F 20% 25V
C636	1-161-734-00	CERAMIC	0.001 μ F 10% 2KV
C637	1-107-948-11	ELECT	330 μ F 20% 160V
C638	1-126-355-11	ELECT	33 μ F 20% 160V

<CONNECTOR>

CN601	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P
CN602	*1-695-561-11	PIN, CONNECTOR (PC BOARD) 7P
CN603	*1-508-765-00	PIN, CONNECTOR (5mm PITCH) 3P
CN605	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P
CN606	*1-564-508-11	PLUG, CONNECTOR 5P
CN609	*1-564-506-11	PLUG, CONNECTOR 3P

<DIODE>

D601	8-719-032-39	DIODE DSA3A4-F3
D602	8-719-032-39	DIODE DSA3A4-F3
D603	8-719-032-39	DIODE DSA3A4-F3
D604	8-719-032-39	DIODE DSA3A4-F3
D605	8-719-971-65	DIODE RGP15J-6040
D606	8-719-300-33	DIODE RU-3AM
D607	8-719-300-33	DIODE RU-3AM
D608	8-719-911-19	DIODE ISS119-25
D609	8-719-300-33	DIODE RU-3AM
D610	8-719-300-33	DIODE RU-3AM
D611	8-719-045-48	DIODE FML-G12S
D612	8-719-045-48	DIODE FML-G12S
D613	4-382-854-11	SCREW (M3X10), P, SW (+); D612
D614	8-719-920-67	DIODE ERC91-02
D615	8-719-110-46	DIODE RDI6ESB3
D616	8-719-918-78	DIODE V19GF1
D617	8-719-300-33	DIODE RU-3AM
D618	8-719-300-33	DIODE RU-3AM

<FUSE>

F601	1-533-223-11	HOLDER, FUSE
F602	1-533-223-11	HOLDER, FUSE

<FERRITE BEAD>

FB601	1-410-396-41	FERRITE BEAD INDUCTOR 0.45 μ H
FB602	1-410-396-41	FERRITE BEAD INDUCTOR 0.45 μ H
FB603	1-410-396-41	FERRITE BEAD INDUCTOR 0.45 μ H
FB604	1-410-396-41	FERRITE BEAD INDUCTOR 0.45 μ H
FB605	1-410-396-41	FERRITE BEAD INDUCTOR 0.45 μ H
FB606	1-410-396-41	FERRITE BEAD INDUCTOR 0.45 μ H
FB607	1-410-396-41	FERRITE BEAD INDUCTOR 0.45 μ H
FB608	1-410-396-41	FERRITE BEAD INDUCTOR 0.45 μ H

<IC>

IC601	8-749-925-03	IC STR-M6324
IC602	4-382-854-11	SCREW (M3X10), P, SW (+); IC601
IC603	8-749-010-47	IC STR-S3115
IC604	4-382-854-11	SCREW (M3X10), P, SW (+); IC602
IC605	8-759-332-39	IC μ PC24M06HF
IC606	4-382-854-11	SCREW (M3X10), P, SW (+); IC603
IC607	8-759-701-56	IC NM78M05PA
IC608	4-382-854-11	SCREW (M3X10), P, SW (+); IC604

<COIL>

REF. NO.	PART NO.	DESCRIPTION	REMARK
L601	1-411-215-11	COIL, CHOKE 200 μ H	
L602	1-421-421-00	COIL, CHOKE	
L603	1-421-465-00	COIL, FERRITE CHOKE 68 μ H	
L604	1-421-465-00	COIL, FERRITE CHOKE 68 μ H	

<PHOTO COUPLER>

PH601	8-749-923-50	PHOTO COUPLER PC111YS
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<TRANSISTOR>

Q601	8-729-140-96	TRANSISTOR 2SD774-34
Q602	8-729-906-53	TRANSISTOR 2SC2542-15
Q603	8-729-303-61	TRANSISTOR 2SC3851-G
	4-382-854-11	SCREW (M3X10), P, SW (+); Q603

<RESISTOR>

R601	1-202-885-91	SOLID	1M	20%	1/2W
R602	1-216-489-11	METAL OXIDE	27K	5%	3W F
R603	1-216-491-11	METAL OXIDE	56K	5%	3W F
R604	1-249-418-11	CARBON	1.2K	5%	1/4W
R605	1-249-415-11	CARBON	680	5%	1/4W
R606	1-207-642-00	WIREWOUND	0.15	10%	3W F
R607	1-249-423-11	CARBON	3.3K	5%	1/4W
R608	1-249-426-11	CARBON	5.6K	5%	1/4W
R609	1-249-426-11	CARBON	5.6K	5%	1/4W
R610	1-249-421-11	CARBON	2.2K	5%	1/4W
R611	1-249-417-11	CARBON	1K	5%	1/4W
R612	1-249-404-00	CARBON	82	5%	1/4W
R613	1-249-419-11	CARBON	1.5K	5%	1/4W
R614	1-249-385-11	CARBON	2.2	5%	1/4W F
R615	1-202-725-00	SOLID	3.3M	10%	1/2W
R616	1-211-761-11	FUSIBLE	0.1	10%	1/2W
R617	1-211-761-11	FUSIBLE	0.1	10%	1/2W
R618	1-215-869-11	METAL OXIDE	1K	5%	1W F
R619	1-211-761-11	FUSIBLE	0.1	10%	1/2W
R620	1-211-761-11	FUSIBLE	0.1	10%	1/2W
R621	1-216-440-00	METAL OXIDE	18K	5%	1W F
R622	1-247-700-11	CARBON	100	5%	1/4W
R623	1-249-417-11	CARBON	1K	5%	1/4W
R624	1-216-341-11	METAL OXIDE	0.22	5%	1W F
R625	1-216-341-11	METAL OXIDE	0.22	5%	1W F
R626	1-215-869-11	METAL OXIDE	1K	5%	1W F
R627	1-202-846-00	SOLID	470K	20%	1/2W
R628	1-249-409-11	CARBON	220	5%	1/4W F
R629	1-216-341-11	METAL OXIDE	0.22	5%	1W F
R630	1-249-414-11	CARBON	560	5%	1/4W F
R631	1-215-923-00	METAL OXIDE	10K	5%	3W F
R632	1-202-725-00	SOLID	3.3M	10%	1/2W
R633	1-247-903-00	CARBON	1M	5%	1/4W
R634	1-247-903-00	CARBON	1M	5%	1/4W
R635	1-247-903-00	CARBON	1M	5%	1/4W

<RELAY>

RY601	1-515-738-11	RELAY
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<TRANSFORMER>

T601	1-226-716-11	TRANSFORMER, LINE FILTER (LFT)
T602	1-226-716-11	TRANSFORMER, LINE FILTER (LFT)
T603	1-429-462-11	TRANSFORMER, CONVERTER (SKT)

<THERMISTOR>

THP601	1-309-822-11	THERMISTOR, POSITIVE
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The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

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G C

REF. NO.	PART NO.	DESCRIPTION	REMARK
<VARISTOR>			
VDR602	1-809-942-71	VARISTOR	
VDR602	1-809-942-71	VARISTOR	
VDR602	1-810-622-11	VARISTOR	

*A-1335-067-A C BOARD, COMPLETE

*X-4033-345-1 ASSY. HEAT SINK (C)
4-382-854-01 SCREW (M3X8), P, SW (+)

<CAPACITOR>			
C801	1-136-627-11	FILM 0.022μF 3%	1KV
C802	1-162-116-00	CERAMIC 680pF 10%	2KV
C803	1-102-074-00	CERAMIC 0.001μF 10%	50V
C804	1-107-963-11	ELECT 33μF 20%	250V
C805	1-102-050-00	CERAMIC 0.01μF	500V
C806	1-104-664-11	ELECT 47μF 20%	25V
C807	1-101-004-00	CERAMIC 0.01μF	50V
C808	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C809	1-102-108-00	CERAMIC 150pF 10%	50V
C810	1-107-963-11	ELECT 33μF 20%	250V
C811	1-102-050-00	CERAMIC 0.01μF	500V
C812	1-104-664-11	ELECT 47μF 20%	25V
C813	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C814	1-101-004-00	CERAMIC 0.01μF	50V
C815	1-102-108-00	CERAMIC 150pF 10%	50V
C816	1-107-963-11	ELECT 33μF 20%	250V
C817	1-102-050-00	CERAMIC 0.01μF	500V
C818	1-104-664-11	ELECT 47μF 20%	25V
C819	1-163-031-11	CERAMIC CHIP 0.01μF	50V
C820	1-101-004-00	CERAMIC 0.01μF	50V
C821	1-102-108-00	CERAMIC 150pF 10%	50V
<CONNECTOR>			
CN801	*1-691-097-11	PIN, CONNECTOR (PC BOARD) 6P	
CN802	1-564-524-11	PLUG, CONNECTOR 9P	
CN803	*1-766-179-11	PIN, CONNECTOR (PC BOARD) 2P	
CN804	*1-564-518-11	PLUG, CONNECTOR 3P	
<DIODE>			
D801	8-719-901-83	DIODE 1SS83	
D802	8-719-404-46	DIODE MA110	
D803	8-719-404-46	DIODE MA110	
D804	8-719-404-46	DIODE MA110	
D805	8-719-404-46	DIODE MA110	
D806	8-719-404-46	DIODE MA110	
D807	8-719-911-19	DIODE 1SS119-25	
D808	8-719-901-83	DIODE 1SS83	
D809	8-719-901-83	DIODE 1SS83	
D810	8-719-404-46	DIODE MA110	
D811	8-719-404-46	DIODE MA110	
D812	8-719-404-46	DIODE MA110	
D813	8-719-404-46	DIODE MA110	
D814	8-719-404-46	DIODE MA110	
D815	8-719-911-19	DIODE 1SS119-25	
D816	8-719-901-83	DIODE 1SS83	
D817	8-719-901-83	DIODE 1SS83	
D818	8-719-404-46	DIODE MA110	
D819	8-719-404-46	DIODE MA110	
D820	8-719-404-46	DIODE MA110	
D821	8-719-404-46	DIODE MA110	
D822	8-719-404-46	DIODE MA110	

REF. NO.	PART NO.	DESCRIPTION	REMARK
D823	8-719-911-19	DIODE 1SS119-25	
D824	8-719-901-83	DIODE 1SS83	
D825	8-719-901-83	DIODE 1SS83	
D826	8-719-404-46	DIODE MA110	
D827	8-719-404-46	DIODE MA110	
D828	8-719-404-46	DIODE MA110	

<JACK>

J801	2-1251-16-12	SOCKET, PICTURE TUBE
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<COIL>

L801	1-408-414-00	INDUCTOR 27μH
L802	1-408-404-00	INDUCTOR 3.9μH
L803	1-408-404-00	INDUCTOR 3.9μH
L804	1-408-404-00	INDUCTOR 3.9μH

<TRANSISTOR>

Q801	8-729-255-12	TRANSISTOR 2SC2551-O
Q802	8-729-255-12	TRANSISTOR 2SC2551-O
Q803	8-729-801-99	TRANSISTOR 2SC3503-F
Q804	4-373-933-01	SHEET (TRANSISTOR), BN; Q803
Q805	8-729-809-22	TRANSISTOR 2SC3950-D
Q806	8-729-801-99	TRANSISTOR 2SC3503-F
Q807	4-373-933-01	SHEET (TRANSISTOR), BN; Q805
Q808	8-729-801-88	TRANSISTOR 2SA1381-E
Q809	8-729-801-99	TRANSISTOR 2SC3503-F
Q810	4-373-933-01	SHEET (TRANSISTOR), BN; Q806
Q811	8-729-255-12	TRANSISTOR 2SC2551-O
Q812	8-729-801-88	TRANSISTOR 2SA1381-E
Q813	4-373-933-01	SHEET (TRANSISTOR), BN; Q808
Q814	8-729-809-22	TRANSISTOR 2SC3950-D
Q815	8-729-801-99	TRANSISTOR 2SC3503-F
Q816	4-373-933-01	SHEET (TRANSISTOR), BN; Q809
Q817	8-729-809-22	TRANSISTOR 2SC3950-D
Q818	8-729-801-99	TRANSISTOR 2SC3503-F
Q819	4-373-933-01	SHEET (TRANSISTOR), BN; Q811
Q820	8-729-801-88	TRANSISTOR 2SA1381-E
Q821	8-729-140-96	TRANSISTOR 2SD174-34
Q822	8-729-120-28	TRANSISTOR 2SC1623-L5L6

<RESISTOR>

R801	1-202-838-00	SOLID 100K	20%	1/2W
R802	1-202-730-00	SOLID 8.2M	20%	1/2W
R803	1-216-372-11	METAL OXIDE 1.8	5%	2W F
R805	1-202-843-11	SOLID 270K	20%	1/2W
R806	1-249-423-11	CARBON 3.3K	5%	1/4W
R807	1-249-429-11	CARBON 10K	5%	1/4W
R808	1-215-879-11	METAL OXIDE 47K	5%	1W F
R809	1-247-725-11	CARBON 10K	5%	1/4W F
R810	1-249-923-11	CARBON 1K	5%	1/4W F
R811	1-215-902-11	METAL OXIDE 47K	5%	2W F
R813	1-247-807-31	CARBON 100	5%	1/4W
R814	1-219-688-11	METAL 2.7K	1%	10W
R815	1-216-624-11	METAL CHIP 75	0.50%	1/10W
R816	1-214-842-00	METAL 120	1%	1/2W
R817	1-214-832-00	METAL 47	1%	1/2W
R818	1-216-017-91	METAL GLAZE 47	5%	1/10W
R819	1-216-017-91	METAL GLAZE 47	5%	1/10W
R820	1-247-807-31	CARBON 100	5%	1/4W
R821	1-216-013-00	METAL GLAZE 33	5%	1/10W
R822	1-216-013-00	METAL GLAZE 33	5%	1/10W

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The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK
R823	1-215-892-11	METAL OXIDE 1K	5% 2W F
R824	1-247-887-00	CARBON 220K	5% 1/4W
R825	1-215-888-00	METAL OXIDE 220	5% 2W F
R826	1-202-833-11	SOLID 18K	20% 1/2W
R827	1-249-409-11	CARBON 220	5% 1/4W F
R828	1-216-295-91	CONDUCTOR, CHIP	
R829	1-247-807-31	CARBON 100	5% 1/4W
R830	1-219-688-11	METAL 2.7K	1% 10W
R831	1-216-624-11	METAL CHIP 75	0.50% 1/10W
R832	1-214-842-00	METAL 120	1% 1/2W
R833	1-214-832-00	METAL 47	1% 1/2W
R834	1-216-017-91	METAL GLAZE 47	5% 1/10W
R835	1-216-017-91	METAL GLAZE 47	5% 1/10W
R836	1-247-807-31	CARBON 100	5% 1/4W
R837	1-216-015-00	METAL GLAZE 33	5% 1/10W
R838	1-216-013-00	METAL GLAZE 33	5% 1/10W
R839	1-215-892-11	METAL OXIDE 1K	5% 2W F
R840	1-247-887-00	CARBON 220K	5% 1/4W
R841	1-215-888-00	METAL OXIDE 220	5% 2W F
R842	1-202-833-11	SOLID 18K	20% 1/2W
R843	1-249-409-11	CARBON 220	5% 1/4W F
R844	1-216-295-91	CONDUCTOR, CHIP	
R845	1-247-807-31	CARBON 100	5% 1/4W
R846	1-219-688-11	METAL 2.7K	1% 10W
R847	1-216-624-11	METAL CHIP 75	0.50% 1/10W
R848	1-214-842-00	METAL 120	1% 1/2W
R849	1-214-832-00	METAL 47	1% 1/2W
R850	1-216-017-91	METAL GLAZE 47	5% 1/10W
R851	1-216-017-91	METAL GLAZE 47	5% 1/10W
R852	1-247-807-31	CARBON 100	5% 1/4W
R853	1-216-013-00	METAL GLAZE 33	5% 1/10W
R854	1-216-013-00	METAL GLAZE 33	5% 1/10W
R855	1-215-892-11	METAL OXIDE 1K	5% 2W F
R856	1-247-887-00	CARBON 220K	5% 1/4W
R857	1-215-888-00	METAL OXIDE 220	5% 2W F
R858	1-202-833-11	SOLID 18K	20% 1/2W
R859	1-249-409-11	CARBON 220	5% 1/4W F
R860	1-249-441-11	CARBON 100K	5% 1/4W
R861	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R862	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R863	1-216-053-00	METAL GLAZE 1.5K	5% 1/10W
R865	1-216-017-91	METAL GLAZE 47	5% 1/10W

<VARIABLE RESISTOR>

RV801 A 1-223-419-21 RES, ADJ. METAL FILM 110M

<SPARK GAP>

SG801 1-519-422-11 GAP, SPARK
 SG802 1-519-422-11 GAP, SPARK
 SG803 1-519-422-11 GAP, SPARK
 SG804 1-519-422-11 GAP, SPARK

*A-1372-183-A H BOARD, COMPLETE

<CAPACITOR>

C501 1-101-004-00 CAP, CERAMIC 0.01 μ F
 C502 1-101-004-00 CAP, CERAMIC 0.01 μ F
 C503 1-101-004-00 CAP, CERAMIC 0.01 μ F

<CONNECTOR>

REF. NO.	PART NO.	DESCRIPTION	REMARK
CN501	1-564-524-11	PLUG, CONNECTOR 9P	
CN502	*1-564-528-11	PLUG, CONNECTOR 13P	
<DIODE>			
D501	8-719-911-19	DIODE 1SS119-25	
D502	8-719-911-19	DIODE 1SS119-25	
D503	8-719-911-19	DIODE 1SS119-25	
D504	8-719-911-19	DIODE 1SS119-25	
D505	8-719-911-19	DIODE 1SS119-25	
D506	8-719-911-19	DIODE 1SS119-25	
D507	8-719-911-19	DIODE 1SS119-25	
D508	8-719-911-19	DIODE 1SS119-25	
D509	8-719-920-05	DIODE SLF281C-50	
D510	8-719-812-32	DIODE TLY123	
D511	8-719-812-32	DIODE TLY123	
<TRANSISTOR>			
Q501	8-729-029-21	TRANSISTOR DTA114ESA-TP	
<RESISTOR>			
R501	1-249-430-11	RES, CARBON (SMALL) 12K	
R502	1-247-863-91	RES, CARBON (SMALL) 22K	
R503	1-247-863-91	RES, CARBON (SMALL) 22K	
R504	1-249-417-11	RES, CARBON (SMALL) 1.0K	
R505	1-249-417-11	RES, CARBON (SMALL) 1.0K	
R506	1-249-417-11	RES, CARBON (SMALL) 1.0K	
R507	1-249-417-11	RES, CARBON (SMALL) 1.0K	
R508	1-249-417-11	RES, CARBON (SMALL) 1.0K	
R509	1-249-417-11	RES, CARBON (SMALL) 1.0K	
R510	1-249-421-11	RES, CARBON (SMALL) 2.2K	
R511	1-249-414-11	RES, CARBON (SMALL) 560	
R512	1-249-414-11	RES, CARBON (SMALL) 560	
R513	1-249-436-11	RES, CARBON (SMALL) 39K	
<VARIABLE RESISTOR>			
RV501	1-223-504-21	RES, VAR, CARBON 20K	
RV502	1-223-504-21	RES, VAR, CARBON 20K	
RV503	1-223-735-11	RES, VAR, CARBON 20K	
RV504	1-223-735-11	RES, VAR, CARBON 20K	

<SWITCH>

S501 1-570-969-11 SWITCH, KEY BOARD
 S502 1-570-969-11 SWITCH, KEY BOARD
 S503 1-570-969-11 SWITCH, KEY BOARD
 S504 1-570-969-11 SWITCH, KEY BOARD
 S505 1-570-101-41 SWITCH, KEY BOARD
 S506 1-570-101-41 SWITCH, KEY BOARD
 S507 1-570-101-41 SWITCH, KEY BOARD
 S508 1-570-101-41 SWITCH, KEY BOARD
 S509 1-570-101-41 SWITCH, KEY BOARD
 S510 1-570-101-41 SWITCH, KEY BOARD

*A-1388-181-A J BOARD, COMPLETE

<CONNECTOR>

CN608 *1-695-561-11 PIN, CONNECTOR (PC BOARD) 7P

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

J X

REF. NO.	PART NO.	DESCRIPTION	REMARK
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<SWITCH>

S601	A-1-492-92-11	SWITCH, PUSH (A/C POWER)	
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 *A-1390-586-A X BOARD, COMPLETE

<CONNECTOR>

CN690	*1-564-518-11	PLUG, CONNECTOR 3P	
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<DIODE>

D691	8-719-301-36	DIODE SEL4410E-D	
D692	8-719-301-36	DIODE SEL4410E-D	
D693	8-719-301-36	DIODE SEL4410E-D	
D694	8-719-301-36	DIODE SEL4410E-D	

 MISCELLANEOUS

1-411-657-11	COIL, LANDING CORRECTION
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1-426-505-11	COIL, DEMAGNETIZATION
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1-452-032-00	MAGNET DISK
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1-453-104-11	DC BLOCK, HIGH-VOLTAGE
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1-526-594-81	CAP ASSY, HIGH-VOLTAGE
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1-541-449-11	FAN, DC (WITH SENSOR)
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1-544-063-12	SPEAKER
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1-576-133-41	FUSE (H.B.G.) (3.15A/250V)
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1-694-086-11	TERMINAL BOARD ASSY, I/O
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1-923-507-15	WIRE TINNING COPPER 40MM
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1-8-451-432-51	DIY Y20SPH2-M3
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1-8-453-702-11	NA3011(M)
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Y991	1-8-736-379-03	PICTURE TUBE 20MT (PVM)	
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 ACCESSORIES AND PACKING MATERIALS

1-551-631-21	CORD, POWER (6.0A/250V)
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3-170-078-01	HOLDER (B), PLUG
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3-701-616-01	BAG, POLYETHYLENE
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3-810-592-11	INTERFACE MANUAL
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3-810-593-11	MANUAL, INSTRUCTION
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4-048-070-01	HINGE, COVER
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4-048-072-01	COVER, CONTROL PANEL
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4-048-073-01	COVER, DROP PROTECTION
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4-048-176-01	SHEET, ADHESIVE
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*4-043-769-01	CUSHION (UPPER) (ASSY)
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*4-043-770-01	CUSHION (LOWER) (ASSY)
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4-052-776-01	CARD, QUICK REFERENCE
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4-052-968-01	INDIVIDUAL CARTON
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4-381-155-01	BAG, PROTECTION
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PVM-20M7MDE

9-922-614-01

**Sony Corporation
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